HARVARD MEDICAL
ALUMNI BULLETIN WINTER 1990

2 Now there is at Jerusalem [b] by the sheep [3] *market* a pool, which is called in the Hebrew tongue Bethesda, having five porches.

3 In these lay a great multitude of impotent folk, of blind, halt, withered, waiting for the moving of the water.

4 For an angel went down at a certain season into the pool, and troubled the water: whosoever then first after the troubling of the water stepped in was made whole of whatsoever disease he had. —JOHN V: 2-4

Religion and Medicine

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HARVARD MEDICAL

ALUMNI BULLETIN / WINTER 1990 / VOL. 63 NO. 3

FEATURES

DEPARTMENTS

Cover: Healing Waters, *by Azriel Awret, in the Warren Grant Magnuson Clinical Center at the National Institutes of Health, Bethesda, Maryland. Courtesy of the NIH.*

INSIDE H.M.A.B.

It was an agreeable conversation. Eight individuals concerned with the intersection of healing and humankind—for want of better terms, medicine and religion—sat about a low, round table. What they said to each other is the leading mark for this issue of the *Bulletin*: an exchange of ideas coming from very different points of view. Our conversation was not an argument about faith versus agnosticism, nor Western versus Eastern systems of thought, and it certainly was not dogmatic theology versus molecular biology. Small wonder that the spirit of Francis Peabody was the catalyst of that morning's gathering in Cambridge.

Because the conversation was held away from the Quadrangle, we have asked Carola Eisenberg, dean for student affairs, to comment on its relevance to the current medical school scene. Bob Coles illustrates the relationship between Freud and religion—made vivid by his story of an encounter with a young patient that would certainly win the approval of William Carlos Williams. Then we publish for the first time a 1959 essay by E.D. Churchill on what a physician expects of a minister as a colleague.

There follows Raymond Moody's clinical report of near-death experiences of travelers who returned from borders of that undiscovered country. Then to set our time scale right, S. Boyd Eaton furnishes a Paleolithic guide to health. The features close with two students' insights into a medical practice at the periphery of a highly organized, technological Japan.

Among the miscellany, but nonetheless important, are a review of the life of Harvard's great biochemist, Otto Folin; a Californian visit to Russell Rohde and his owls; and two memorial reminiscences—one of Richard Wilson of the Brigham and Dana Farber, and one of Norman Riung, who would have graduated with the class of '44 had he not disappeared over Normandy in World War II, flying in the service of his native Norway.

—Gordon Scannell

HARVARD MEDICAL
ALUMNI BULLETIN

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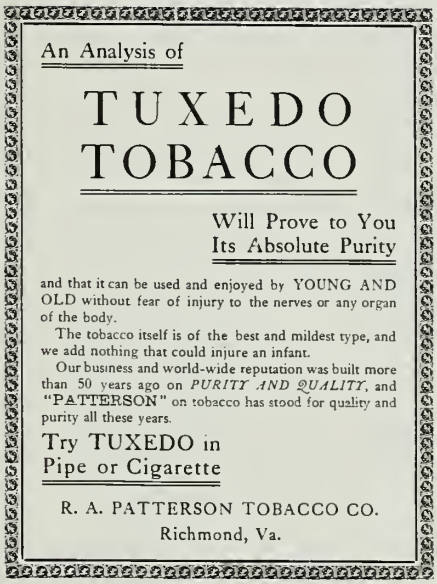
LETTERS



Too Young to Smoke

One date, in two places, caught my eye in Debra Trione's Spring 1989 interview with Allan Brandt about the history of smoking ("Where There's Smoke, There's Fire"):

"One of the recurrent themes throughout cigarette advertising has been a recognition that people are concerned about the health risks of the cigarette. The advertisers of course [denied] there are any health risks . . . as early as the 1920s."

"By 1920 more Americans lived in cities than rural areas and the cigarette was an appropriate social behavior for urban life."

I send you herewith copies of two contemporary effusions that vividly illuminate those two points and serve as testimonies—one into and the other out of the mouths of almost babes, if not sucklings. They are full-page illustrations from old annuals of my boarding school, the Episcopal High School in Virginia.

The first one is from the annual for 1910 and shows how, as early as that date, a tobacco company was denying vigorously that smoking could be dangerous "to the nerves or any organ of the body."

The second one, from the 1921 annual, shows a pretty, scantily clad, clearly desirable young lady brandishing and obviously enjoying a cigarette, temptingly demonstrating "appropriate social behavior."

Note Bene: Now any EHS boy caught smoking anywhere on the school grounds is stuck many demerits and, if that doesn't stop him, he must commit himself to some rehabilitation program like "Smoke-Enders."

—John White, PhD

Taking Care of Prisoners

Like the sage of Hyannisport, Irvine H. Page, and though not a Harvard Medical School graduate, I am greatly impressed by the literary excellence of the *Harvard Medical Alumni Bulletin.*

John D. Stoeckle's exemplary review, in the Summer issue, of *Care and Punishment: The Dilemmas of Prison Medicine*, the seminal work of Curtis Prout and Robert N. Ross, is a particular gem and masterpiece.

To help my father meet my tuition hurdles at the Georgetown University School of Medicine, I took a job as an extern at the District of Columbia Federal Penitentiary. There I resided atop one of four cell blocks, making rounds on my inmate patients mornings and evenings, in addition to hospital rounds during junior and senior years in medical school.

My inexperienced, although supervised care of inmates then would not hold a candle to the seasoned, perceptive care provided by that outstanding

His Holiness the Dalai Lama XIV of Tibet, recipient of the 1989 Nobel Peace Prize, is shown here with Albert Crum '57. He is reading an article in the Summer '89 Bulletin, *written by Crum, about Tenzin Choedrak, the Dalai Lama's personal physician. The story centers on an interview with Choedrak in which he detailed his torture at the hands of Chinese communists following the revolution, and shows his remarkable, triumphant spirit that enabled him to survive. Photo by Anna Kelden.*

medical idealist without illusions, Prout, who realizes that the profession cannot ignore the prisons. Indeed, as Stoeckle points out in his excellent review, caring for perhaps the least desirable person in society is central to the medical profession's values.

The exceptional insights of the Prison Health Project, directed by Prout from 1972 to 1974 and described in *Care and Punishment: The Dilemmas of Prison Medicine*, are an unparalleled guide to medical care and caring in the American prison system—a system reflecting the present Gordian Knot of the conflicting opposites of inmate care and punishment that would vex a Dostoevsky.

—Edward G. Toomey, MD

A Memorable Swim

A small error in the article by Dr. John D. Bullock on ophthalmologists in the Summer issue, gives me an excuse to write and say how much I enjoyed this issue of the *Bulletin*, as well as to say a further word about Judy Melick '81.

Judy interned at the Pennsylvania Hospital in Philadelphia. The Philadelphia General Hospital no longer exists and no other hospital goes by the name "The Philadelphia Hospital."

Judy was a great intern. The thing I remember most about her was a visit to our home along with the other interns. We persuaded her to take a swim in our 40-foot pool. She claimed to be out of shape after a year's work in the hospital. Nevertheless, she encompassed the entire pool with her dive and required only one stroke to take in the length of the pool each way. It was the clearest demonstration to me (five strokes), that world champions are really very different from the rest of us—not just a little better.

—Ed Wood '49

The Stuff Interns Are Made Of

I was delighted to see a letter from my classmate Henry Work '37 in the Summer issue, commenting on the alleged overwork by current house staffs. As an intern at the New York Presbyterian Hospital, like him, I normally worked 36 of every 48 hours. (I recall one day admitting 14 patients—each including a history, physicial, CBC, urine and a sedimentation rate—all done by me personally. I don't recall feeling sorry for myself.)

For one spell I had two of three nights off! To utilize all this spare time, I published my first scientific article.

It may be that the current complaint of overwork comes from the medical services, who, with diminished ancillary help, are called upon more frequently for trivia. The surgical house staff does not complain since it likes the additional surgery. And not a few have ignored Osler's advice about keeping their emotions on ice and have gotten married.

—Franklin K. Paddock '37

For the Record

The Summer 1989 issue of the *Harvard Medical Alumni Bulletin* contains an article entitled "Two Black Alumni" by Preston R. Black. It was interesting and informative.

The reference to Freemen's Hospital as the teaching hospital of Howard University Medical School, however, contains what must be a typographical error. The correct name of the hospital is "Freedmen's Hospital."

—Lawrence E. Putnam '34

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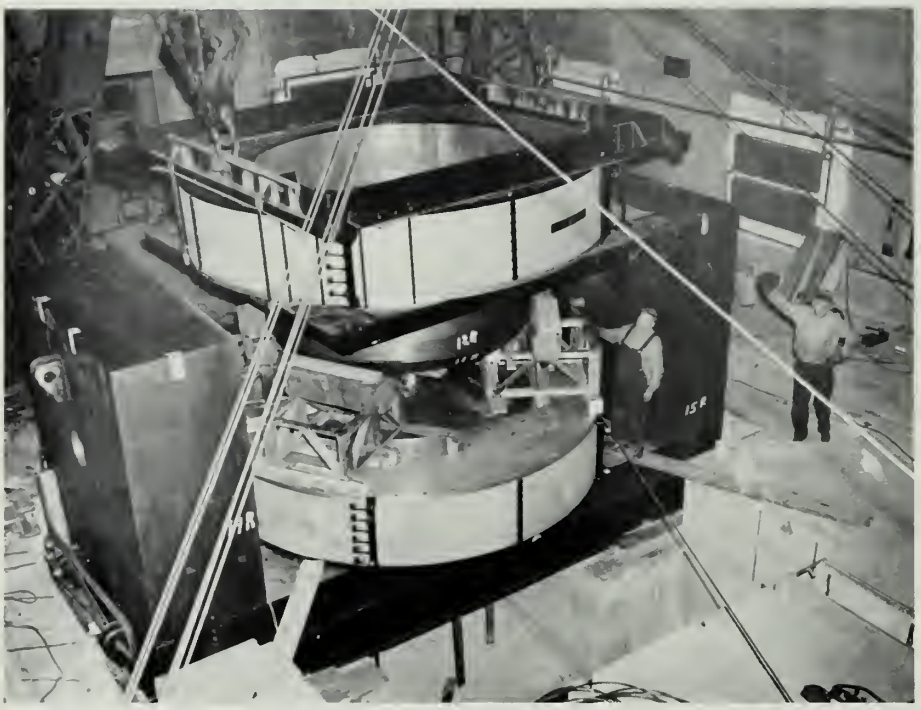


The upper coil of the electromagnet being lowered into place during the 1947 construction of the Harvard cyclotron.

PHOTO COURTESY OF THE HCL ARCHIVES.

"Atom Smasher" Turns Forty

In an age when a new piece of high-tech equipment quickly replaces the "old," the Harvard Cyclotron is a die-hard example of constancy.

Introduced in 1949, the cyclotron was first a tool for atom research in basic physics. Scientists utilized the machine, otherwise known as the synchrocyclotron or "atom smasher," for roughly 10 years until larger, more powerful atom accelerators began dominating the field of subatomic particle studies. Since that time, the cyclotron has served a new purpose eradicating rare tumors through proton radiation. To date, more than 4,300 patients from around the world have been treated with the Harvard cyclotron.

The cyclotron's 40th anniversary was celebrated with an August exhibition titled: "The Harvard Cyclotron: The First 40 Years, 1949-1989" at the Godfrey Lowell Cabot Science Library in the Science Center.

Raymond Kjellberg, associate clinical professor of surgery at MGH, initiated the use of the cyclotron in 1961 for treating arteriovenous malformations, tangles of blood vessels in the brain. Herman Suit, Andres Soriano Professor of Radiation Oncology at MGH, has had success treating a wide variety of tumors including those of the paraspinal area, prostate, and early-stage rectum tumors and tumors of the voice-box. And, Evangelos Gragoudas, associate professor of ophthalmology at the Massachusetts Eye and Ear Infirmary, uses the cyclotron for radiation treatment of ocular melanoma.

"The Harvard cyclotron has shown a remarkable durability," says Suit. "It's a wonderful machine."

Will the cyclotron celebrate its 50th anniversary? A medical radiation center, presently in the planning stages, will take over the clinical responsibilities of the cyclotron and may render the massive machine, weighing 715 tons, obsolete. However, the optimistic outlook, according to Andreas Koehler, senior associate in physics and acting director of the Cyclotron Laboratory, is that "If the use of protons for medical treatment really catches on, sufficient demand might be created to operate both facilities.

"It would be too bad to shut down a machine that is operating so well," he says. □

Bernfield Fills Smith Chair of Pediatrics

The first Clement A. Smith Professor of Pediatrics is Merton Bernfield, who will direct the Harvard Medical School Joint Program in Neonatology and serve as professor of anatomy and cell biology.

Bernfield, a pediatrician and developmental biology researcher, came to HMS from Stanford University, where he was a professor of pediatrics and a chair in the Program in Human Biology, an undergraduate program that bridges biology and the social sciences.

Bernfield's research tackles the question of how cells are regulated to form organs of specific shapes and functions during embryonic development. He focuses on the interaction of cells with the extracellular matrix, the material in and around cells, which he has found to be critical not only to the organization of tissues, but possibly also to the invasion of cancer cells.

"When we know how organs take shape, we'll be able to understand the basis for the birth defects we see so often in newborn infants," he says.

The Clement A. Smith chair honors one of the founders of the neonatology specialty. Clement Smith's relationship with HMS began in 1931, when he came

Merton Bernfield

Clement A. Smith

as a resident from Michigan. He was the first full-time pediatrician at the Boston Lying-In Hospital and a director of research there. Smith also served as the chief of the infants' division and professor of pediatrics at Children's Hospital. He became *emeritus* in 1968.

In 1945 Smith authored *Physiology of the Newborn Infant*, in which he innovated the concept of newborn medicine, and in 1983 published *Children's Hospital of Boston: Built Better Than They Knew*, a history of the hospital. He was also editor of the journal *Pediatrics* for nine years. Smith died in December 1988. □

Class of 1993 – Vital Signs

It is "a theme of service," as Director of Admissions Gerald Foster '51 expressed it, that distinguishes the Class of 1993.

Continuing the upward swing, 61 percent of these high achievers attained undergraduate grade point averages of 3.75 or better. Seventy-four percent of the Class of 1993 were undergraduate science majors, and more than 10 percent majored in humanities. They come from 65 colleges in 34 states and 4 different countries, including Hong Kong, Germany, Chile and Canada.

Harvard/Radcliffe had the largest number of enrollees, 28, while Yale had 12, and UC/Berkeley had 10. The Class of 1993 includes 14 black Americans (27 were offered places), 7 Mexican Americans, and 4 Puerto Ricans. Ages range from 20 to 36.

Fourteen students are returning from Rhodes, Marshall, and Rotary International scholarships, as well as other travel/study programs. This almost balances the 18 students from the Class of 1993 who have also taken advantage of the HMS deferment program.

Due in part to some "overzealous overbooking," says Foster, the Class of 1993 is the largest ever—170 students. Seventy-five percent of students accepted to HMS chose to attend the school. Foster says, "This high yield reflects strong interest in HMS's new curriculum for the standard program as well as the HST program." There are 73 women—one of the largest number ever—and 97 men. □

Countway Library Has New Head Librarian

Judith Messerle, formerly director of the Medical Center Library at St. Louis University, started August 1989 as the new librarian of the Francis A. Countway Library of Medicine.

Messerle says that she plans to formulate strategic plans to close "significant gaps" in the library's collections and establish long-range goals. She has begun what she identifies as her first priority, "building a team," and is meeting individually with each of the library's 70 staff members.

A member of the Biomedical Library Review Committee of the National Library of Medicine, Messerle has also served as president of the Medical Library Association. She received her master's in library science from the University of Illinois at Champaign in 1967,

ORIENTATION PHOTO BY BARBARA STEINER; BERNFIELD PHOTO BY JOHN LAUERMAN

Incoming students explore extra-curricular options during orientation.

Judith Messerle

and worked at St. Joseph's Hospital in Alton, Illinois for 18 years in various leadership capacities.

Messerle, who also holds the title of librarian of the Boston Medical Library, replaces Robin LeSuer, who retired in July after 12 years as librarian. □

New Duties for Deans

The dean has reorganized his senior dean's group, adding to their responsibilities to better accommodate the "increasing volume of activity and the complexity of our community." Dean Daniel Tosteson '48, in his *Faculty of Medicine Newsletter*, announced new appointments for David Bray, S. James Adelstein '53, Eleanor Shore '55 and Daniel Federman '53.

Adelstein and Bray have been named executive deans, the former for academic programs and the latter for administration. Together with Dean Tosteson, they now oversee faculty affairs, medical education, graduate education, hospital relations, finances, facilities, and resources.

Shore, who has been associate dean for faculty affairs since 1978, is now dean for faculty affairs. Among other responsibilities, she chairs the Committee on Promotions and Reappointments.

Federman, formerly dean for students and alumni, is now dean for medical education. He oversees all MD-degree student-related activities and programs, including curriculum issues and educational support, the five academic societies, and the office for student affairs. Though "alumni" is no longer in his job title, his connection to alumni activities will not change. □

CAMPAIGN REPORT

The Quadrangle Sciences

No category of science exists to which one could give the name of applied sciences. There are science *and the* application of science, *linked together as a fruit is to the tree that has borne it.*

—Louis Pasteur (1822-1895)

On September 26, 1906, during the presidency of Charles William Eliot, the five marble buildings of the Harvard Medical School Quadrangle were dedicated. Complete with teaching amphitheatres, laboratories and administrative offices, the new structures were planned to accommodate the school's vigorous growth under Eliot, who had instituted a more demanding, three-year course of study for aspiring doctors.

Some question remains as to whether the marble—obtained at a bargain price—was rejected for use in building the New York Public Library, or whether it was quarried simply to gain access to higher-grade marble that lay beneath. However, there is no doubt that the stone has supplied a strong foundation for medical science at HMS.

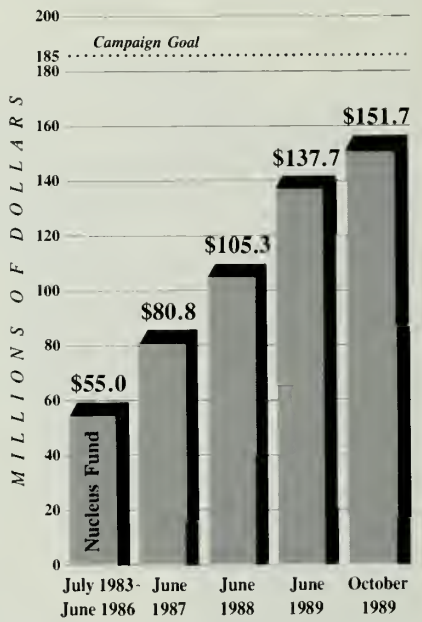
Today, these buildings house laboratory and preclinical teaching space for the departments of Anatomy and Cellular Biology, Biological Chemistry and Molecular Pharmacology, Cellular and Molecular Physiology, Microbiology and Molecular Genetics, Neurobiology and Pathology. The departments of Genetics, in the nearby George W. Thorn Research Building, and Health Care Policy, in renovated quarters at the old Peter Bent Brigham Hospital building, complete the roster of the Quadrangle departments.

This is the core of fundamental research at HMS, and as such, forms an indispensable resource for students, faculty and clinical associates. The contributions of Quadrangle researchers, while often lacking media appeal, are an irreplaceable component of clinical research and education.

This may be more true today than ever, according to Bernard Fields, Adele Lehman Professor and head of Microbiology and Molecular Genetics. "We're in the middle of a revolution; we're now able to understand the structure of biological materials at a very fundamental level," he says. As a consequence, "The distinctions between basic science and medical or applied science are becoming blurred."

No more than a few decades ago, genetics was a seemingly arcane subject, suitable for discussion on the farm and in the garden, but certainly not in hospital halls. Since the Mendelian era has yielded to that of Watson and Crick, the study of genes has been firmly

Campaign for the Third Century of Harvard Medicine



The Campaign reached $151.7 million in gifts and commitments as of October 31, 1989. The Campaign goal is $185 million.

PHOTO BY STEVE GILBERT

yoked to the diagnosis and treatment of an ever-widening variety of clinical diseases.

"This will undoubtedly be viewed as the great era of discoveries in genetics as it applies to the human condition," says Philip Leder '60, John Emory Andrus Professor and Head of Genetics. "When I began to teach genetics to HMS students in the winter of '83, we laid out a series of common diseases for which the genes had not been identified. In the last lecture, we outlined the way that these diseases would ultimately fall.

"One by one our predictions have come true. Chronic high cholestrol caused by mutations in the low-density lipoprotein [LDL] receptor has been marvelously elucidated, as have sickle cell anemia and thalassemias, Duchenne muscular dystrophy and cystic fibrosis. All these diseases have come under scrutiny and yielded."

Studies of health care's organization and finances were also once considered remote from the clinical arena. However, the rising cost of medicine, and greater demands on physicians to provide care, have increased the mutual dependency of administrative offices and clinics so that anything that affects one can be felt by the other.

As professor and chair of health care policy, Barbara McNeil '66 is bringing together physicians, economists, social scientists and other specialists to coordinate health care delivery and payment in ways that will directly benefit patients.

"Policy research is to the delivery system as the basic research is to the application of the basic sciences," reflects McNeil. "Other departments working side-by-side with us in the Quadrangle are producing incredible advances, but if we don't have a well orchestrated delivery system, we're not going to have room in the budget for any of the new treatments that come from them."

Another important figure in the Quadrangle equation is the training of graduate students provided by the Division of Medical Science (DMS). Every year, these specialized researchers become more involved in laying the groundwork for diagnostic and therapeutic strategies.

"What we've been seeing over the past few years is that the application of basic science to medicine is becoming easier and more rapid," says John Collier, Maud and Lillian Presley Professor of Microbiology and Molecular Genetics and DMS director. "To me, it's obvious that the progression of the school and basic sciences are intertwined. In a medical school, you want a strong commitment to basic science and graduate students who are aware, at an increasingly detailed level, of medical problems."

Neglect of the fundamental sciences would be disastrous to the ambitious clinical projects in place at HMS. For this reason, the Capital Campaign for the Third Century of Harvard Medicine seeks $25 million in "Funds for Discovery." These monies will provide support for general research in both basic and social sciences, and graduate students in the DMS.

In addition, Dean Daniel Tosteson has indicated a need for $24 million for Quadrangle professorships. Alumni, former patients and friends of the school have already supplied more than a quarter of this amount, but more is needed to assure the continuation of quality research and preclinical education.

Although Louis Pasteur warned of the neglect of fundamental science in the 1800s, there are still many who do not understand the importance of these endeavors, or give its practitioners due credit. However, having seen first-hand the benefits of basic research, HMS alumni are uniquely qualified to comprehend the urgency of its mission.

"The danger of not understanding the underlying causes of disease is that you're forced to be reactive. You're consigned to dispense aspirin without going to the root cause of the problem," says Christopher Walsh, David Wesley Gaiser Professor and head of Biological Chemistry and Molecular Pharmacology. "When new problems arise—let's say the next AIDS epidemic—you won't have any basis for understanding the molecular origins of the disease."

Without the efforts of basic scientists such as those in the Quadrangle, clinicians "would keep relying on traditional procedures without any chance for advancement," warns Leder. "There will not be any advance in applications without fundamental science." □

BOOK MARKS

OTTO FOLIN: AMERICA'S FIRST CLINICAL BIOCHEMIST by Samuel Meites, American Association for Clinical Chemistry, Inc., Washington, D.C., 1989.

by Manfred L. Karnovsky

Many alumni of the Harvard Medical School will remember Otto Folin, professor of biological chemistry from 1909 to 1934, either because they were his students, or because a great number of them had contact with the numerous methods that he developed for the quantitative examination of blood and urine. Those methods were a most remarkable contribution to biomedical science.

Folin's association with Harvard antedated his appointment as professor and head of the department of biological chemistry. He was, in fact, appointed associate professor of biochemistry in 1906 when he was located at McLean Hospital. At that time, he was the only non-MD on the faculty of HMS. He went to McLean in 1900 to set up a laboratory and to carry out his investigations at the behest of Edward Cowels, the medical superintendent. Cowels had made earlier efforts to secure the services of this bright young chemist who was interested in establishing sound methods for the analysis of bodily constituents.

Samuel Meites has done an extraordinarily fine job in collecting information about the life of Otto Folin. He has gathered and made selections from innumerable professional and personal letters and has caught the essential human nature of the individual. Those who knew Folin and those who have seen the rather severe portrait of him in Building C-1 will be agreeably surprised at the warmth, humor, even playfulness, manifest in the correspondence between Folin and the woman who later

Otto Folin in the chemistry laboratory at McLean Hospital, circa 1901.

PHOTO COURTESY OF MCLEAN HOSPITAL ARCHIVES

became his wife, as well as with some of his friends. Meites also provides abstracts of Folin's methods in a separate section with keys to the appropriate chapters.

One cannot but be amazed at the prescience of McLean Hospital in appointing Folin in the early 1900s to attempt to gain comprehension of chemical accompaniments of mental disease. The support of chemical investigations related to the nervous system has been maintained at that hospital to the present. Although Folin was happy and productive at McLean Hospital, devising methods for several metabolic end-products (urea, ammonia, uric acid, phosphate, sulfate), in fact it cannot really be said that any great progress was made towards establishing clear correlations between bodily chemistry and mental illness.

Apart from being struck by the forward-looking attitude of Cowels and McLean Hospital, one must note the involvement of Henry P. Bowditch of the department of physiology at HMS, who, on at least two occasions, tried to secure the services of Folin at this school. On the first occasion, the salary and position *per se* offered in the department of physiology were not compelling enough to attract Folin. On the second occasion, Bowditch, who had just become professor *emeritus*, wrote to Arthur T. Cabot, MD, a member of the Corporation of Harvard University: "I should regard it as a great misfortune if Folin were to accept a position in another University, for it would seem to indicate an inability on our part to recognize a first-class man when we see him, or a failure to appreciate the important bearing of his work in the advancement of Medical Science." (A sentiment not unfamiliar to members of any faculty.)

Among all these matters, Meites appropriately emphasizes the enormous contribution of Willey Denis to the progress of Folin's work. Denis is a woman who was very important in biochemistry, which more than most fields of science has attracted numerous very talented women. He also describes matters about which many of us do not have much knowledge, such as Folin's summer work at Wood's Hole and his summer involvement in the Kearsarge area in New Hampshire.

Meites' text comes alive with the description of the linkage between Folin and numerous individuals whose names are well known in this community: Russell H. Chittenden at Yale, the first professor of physiological chemistry in this country; Stanley R. Benedict, a younger person at Cornell; and Donal Van Slyke, whose gasometric methods are familiar to the many graduates of HMS who took part in the laboratory exercises supervised by Folin's successor, A. Baird Hastings. Among Folin's students mentioned in the book are Walter Bloor and James Sumner, who became famous in the fields of lipid biochemistry and protein biochemistry respectively. The latter shared the Nobel Prize for his work on urease.

The book's *dramatis personae* also include Philip Schaffer and Harry Trimble. It was intriguing as well to read of Lawrence Henderson, whose thinking was so seminal and whose contributions are known, at least in skeletal form, by everyone interested in biomedical science. Meites describes Henderson's relations with the medical school, with Folin and with the college in Cambridge. One cannot help but sense that there were tensions and that, even at that time, academic politics were an important part of academic life. One matter that will be of great interest to a number of biochemists who might pick up this book is the description of Folin's involvement in the founding and early years of the American Society for Biological Chemistry (since expanded to include Molecular Biology) and in the beginnings of the *Journal of Biological Chemistry*.

In one section of the book, the author quotes Folin's expectations of first-year medical students in terms of the knowledge they should acquire. I have selected just three items purely to underline the fact that change is slow: "Compare starch and glycogen . . . Discuss ammonia as a metabolism product . . . State the chief characteristics of enzyme reactions." To be sure, other more specialized (and evanescent) aspects of biomedical science and biochemistry were also part of the list.

In a separate section, Meites chronologically highlights Otto Folin's career, largely a list of the methods Folin developed. Looking at this compendium, one is struck by the ingenuity and adaptability of thought that is evident. For example, the use of phosphomolybdate—which may be reduced to the bright blue phosphomolybdous ion—is of particular interest. Various workers, including Folin, rang the changes on what component was limiting in the reaction, thus developing ways of measuring several different entities (phosphate, sugar, phenol) using the same overall idea. Oliver Lowry, once a member of the Department of Biological Chemistry at this school, and his colleagues

modified the method for phenol and it became a part of the most widely-used technique in all of biochemistry for determining protein by focusing on the phenolic tyrosine groups.

In the discussion of Folin's methods and approaches to science, the collaboration with his student and colleague Hsien Wu is most remembered. "Folin-Wu" certainly must ring a bell in the minds of countless MDs and biochemists who grew up in the era when the use of the Folin-Wu comprehensive system of analysis was so important. Meites even presents a series of sketches of the appropriate glassware for use in these methods. It is with some nostalgia that I regarded the exact-scale drawing of the famous blood sugar tube, with its narrow neck and bulbous end, of which my laboratory still has virtually hundreds. It is too painful to throw this beautiful glassware away, even in this era when glucose is measured so easily and specifically by controlled enzymatic colorimetric methods, usually in plastic cuvettes.

The "Folin-Wu Room" recently established at HMS prominently displays an oil portrait of Folin and a bas relief plaque of Wu. One likes to think that this is a unique appellation for a room, as it honors not only the founders of a method and technique in biomedical science, but the very method itself.

Otto Folin

This biography is a truly scholarly compilation. It is not a book that most will be interested in reading from cover to cover, but it is certainly full of matters that are of enormous interest to a wide variety of people. The book can be dipped into with great enjoyment and advantage. The sections at the end that are keyed to chapters on methods are particularly interesting for the professional and do not obtrude into the narrative. Despite the great value of these appended sections, which yield detail on the earlier chapters, I found that I missed an index. It is a great pity that one is not included.

Furthermore, in this slightly critical vein, one should mention that the actual format and physical design of the book are not appealing. These are small matters beside the overall accomplishment of Meites, whose excursions into the early life of Folin in Sweden and his education at the University of Minnesota, the University of Chicago where he took his PhD with Julius Stieglitz, his postdoctoral experiences in Europe, his flirtations with industrial concerns (an early forerunner of some current activities in biomedical science) and his experiences at the University of West Virginia in Morgantown are all meticulously documented. They provide a really interesting history, not only of Professor Folin but also of medical science in and before our times. □

Manfred L. Karnovsky is Harold T. White Professor of Biological Chemistry and Molecular Pharmacology Emeritus. *He recently celebrated the completion of his 40th year at Harvard.*

An Agreeable Conversation

ON THE BORDER OF RELIGION

The idea for this "agreeable conversation" on religion and medicine began with a feature article in the Harvard University Gazette, *January 29, 1988 entitled "A Time for Faith." Rev. Peter Gomes, Rabbi Ben-Zion Gold, Sister Mary Karen Powers—all of whom take part in this conversation today—together with other members of the united ministry that serves the university in Cambridge, reported their sense of resurgence of interest in religion among the undergraduates. The time-worn and inaccurate label "Godless Harvard" was challenged.*

The Gazette *article sounded an interesting note. Brought up in a generation that didn't talk much about religion—a private matter, something you didn't wear on your sleeve, somehow impolite to ask about—your editor wondered if this interest spilled over into the medical school. And if so, what form did it take? There were all sorts of possibilities. Certainly it seemed worthwhile to pursue the subject further.*

Participants
(in order of their appearance):

PETER J. GOMES
Plummer Professor of Christian Morals; Minister in the Memorial Church, Harvard University.

DOROTHY AUSTIN, TH.D.
Ordained Christian Minister; Lecturer on Religion and Medicine in Harvard Divinity School; Director, Erikson Center, Cambridge.

ANUSHUA SINHA
HMS '92

LEE SCHWAMM
HMS '91

RABBI BEN-ZION GOLD
Member of the Board of Ministry, Harvard University; Director and Associate, Harvard-Radcliffe Hillel.

SISTER MARY KAREN POWERS, RSM
Chaplain, Harvard-Radcliffe Catholic Student Center at St. Paul's; President, United Ministry, Harvard.

LORING CONANT JR., MD
Physician to University Health Services, Harvard University.

After some pleasant conversations with Peter Gomes; a bit of spade work rearranging busy schedules; some homework, including Peabody's Care of the Patient, *an essay on who Peabody was, and how he dealt with the Ultimate—here we are.*

The conversation was recorded one sparkling May morning in the Pusey Room of the Harvard Memorial Church. A transcript of the tapes required some editing, but every effort has been made to preserve the informal and conversational flavor of the original seven participants, all healers in one way or another. We converged on the old-fashioned subjects, spirituality and humanity, certainly within the varieties of religious experience that William James defined as the feelings, acts and experiences of individuals in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the divine. —*JGS*

Peter Gomes: Well Gordon, I first want to say I think we're all grateful to you for conceiving this creative idea and pushing it. There are many people who have great ideas, or even good ideas, which die aborning. You've had a wonderfully creative idea and you have seemingly got us all involved with that idea, and with each other, and we hope with a large community through the good offices of the *Harvard Medical Alumni Bulletin.*

When you and I first talked about this over lunch, I wasn't quite sure what would be the best way to proceed because there are conferences and symposia all around the block on ethical and medical subjects and abstruse theological subjects. I spend most of my time trying to avoid such gatherings, and even more the people who go to them. So I wasn't sure whether we wanted to create more of the same or a poor example of the same.

But what appealed to me about what you seemed to have in mind was the phrase an "agreeable conversation" among people from very different points of view who are concerned with the intersection between healing and humankind. And we're all part of this in one form or another as professors, pastors, chaplains and students—people who are ourselves subject to the vagaries of health and experience and have a need for healing.

Francis Greenwood Peabody was my predecessor in the Plummer Professorship and was perhaps the most distinguished of these professors. His son, Francis Weld Peabody, is the point of departure for this conversation, and his father's memoir of his son is our text.

Thanks to you, I came to read your article on Francis Weld Peabody ("The Care of the Patient: The man and the patient behind an epigram." *Harvard Medical Alumni Bulletin*, Winter 1986-87) and to know something about the care of the patient. And it was to the line that you quoted that also I was drawn—where F.W. Peabody said, "I began to find in my own work that I am continually on the border of religion when I talk to patients." That struck me as both old-fashioned and terribly up to date.

So I wonder if a way to begin is simply to go around the room telling who we are and whatever point of view or focus we might want to bring to the subject. It may have to do with our relationship to the university community, or to our religious community or our professional community—some point of access. Then let's not simply make speeches, but toss out our perspectives and let this take the form of a conversation rather than a series of nine different speeches.

Dorothy Austin: Peter, I'll pick up from where you began with Francis Peabody. I teach psychology and religion to undergraduates in the yard, and religion and medicine at the divinity school. In the Religion and Medicine course that I teach—taught this year with neurologist Julian Unger-Sargon—Gordon Scannell joined us informally as a third member of that team.

The course is designed for divinity students and medical students. We use Peabody's essay on the care of the patient, which not only is a classic in medical education but is becoming a classic in theological education as well. Peabody's essay might well have been written under the title, "The care of the person." It's of value, I think, to those of us who are engaged in the education of healers, and here I mean not only medical healers but religious healers, rabbis, ministers, sisters, priests and the like.

I'm always intrigued that Francis Peabody makes a great deal out of what he calls broadly psycho-neurosis, which we're all familiar with—a kind of psycho-spiritual physical ailment of discontent—and the necessity on our parts to respond, not only to one another but to those who come to us for professional care. To respond to the person *as person.* As I was re-reading Peabody's essay, I was reminded of Erik Erikson's essay on the nature of clinical experience. As Erikson lectured to a group of medical students, he was trying to look at some of the same issues that Francis Peabody was, and trying to say, look at the *whole person.* In the essay I have in mind, Erik tells an illustrative joke, which he says is a Jewish joke:

An old Jew went to his doctor—old Jews, Erikson says, have a way of making plain to us the human condition. The doctor says to the old man, "How are you feeling?" and the old man replies, "Well, Doctor, my bowel is very slow and my stomach is slow to empty; my feet are flat and so it's hard to walk a long distance; my eyesight is failing and you know doctor my hearing's not so good; and now in all truth doctor, while we're on the subject, I myself don't feel too well either."

It's a wonderful anecdote that illustrates so well that we are simply more than the sum of our parts—that the healer has to respond to the whole person, that we want to be responded to as *whole* people.

The treatment of a disease may be entirely impersonal; the care of a patient must be completely personal. The significance of the intimate personal relationship between physician and patient cannot be too strongly emphasized, for in an extraordinarily large number of cases both diagnosis and treatment are directly dependent on it, and the failure of the young physician to establish this relationship accounts for much of his ineffectiveness in the care of patients.

—FRANCIS W. PEABODY

Francis Peabody is saying, "Learn to listen to the human condition, and to the whole person."

Peter Gomes (to the students): Do medical students read Francis Weld Peabody? I see you have his essay with you but were you not here today, would you have known of it?

Anushua Sinha: By way of introduction, I am a first-year student at HMS. In Dorothy Austin's Religion and Medicine course, one of our readings was Francis Peabody's *The Care of the Patient*. Interestingly, it was not assigned reading in our first-year clinical course, Patient/Doctor. However, I was amazed to find that so many of the contemporary essays we read for Patient/Doctor, coming from many different disciplines couched in the language of many different discourses, really come back to the message that Peabody is trying to convey—that the patient is a whole human being and must be dealt with as such.

I think a lot of what our New Pathway curriculum is attempting to do is to address the issues that were so contemporary for Peabody and are still pressing today. In terms of the success that our curriculum, our student body and faculty have had in addressing these issues—in coming to grips with the fact that the biomedical model of medicine does not encompass the entire patient—I'd say it's a very mixed success.

Our success has been mixed because dealing with patients in the way Peabody asks us to involves bringing your subjective self into the interaction. You can't treat the patient as an object whose symptoms you note, whose clinical course you record. When you are dealing with a suffering individual, you can't ignore your own suffering. And trying to deal with a person's situation in the broadest sense, you can't help but deal with your own existential situation. And that for a 21- or 22-year-old is a frightening prospect.

Academically, there is so much that we're asked to handle at a rapid rate, so many demands that are made upon our intellectual abilities, that when we are asked to deal with this broadest of challenges as well, it's no wonder we try to trivialize the "touchy/ feely" aspect of our curriculum. It's no wonder that we say, "oh that's just psycho-social babble."

Back row: Gordon Scannell, Loring Conant Jr., Peter Gomes, Mary Karen Powers, Ben-Zion Gold. Front row: Lee Schwamm, Dorothy Austin, Anushua Sinha.

Unfortunately some of our preceptors have difficulty giving appropriate support and guidance. The need is not recognized, particularly in a school like HMS where we're all so sure of our capability, of our ability to fend for ourselves. Few preceptors say to you, "This is a scary task, and you whom I am to train as a physician must recognize that this is frightening and this is serious and important. Biochemistry, immunology, physiology are important, but your ability to grapple with the human being in front of you is even more important."

In thinking about this roundtable discussion, there were many other issues that came to mind. When Peabody wrote this essay, the whole economic mechanism—HMOs, DRGs and AIDS—within which we now care for the patient did not exist. Patient advocacy, medical care for the underserved, AIDS treatment, care for the elderly—how do these fit Peabody's comments of his time? I don't have the answer, I ask the question.

Peter Gomes: The historian in me rises at this point because I am reminded of two Harvard medical people of whom I know something—Francis Weld Peabody and Richard Clark Cabot. Both came to their positions out of generations of Boston privilege and responsibility. They weren't self-made by any means. They were inheritors of a great and honored public tradition and yet struck out a course of advocacy and action and style, which to us today, in some sense, seems both radical and quite different from what you would expect of Brahmin Boston doctors of 75 years ago. They were different then and different now, yet somehow they seem to be in their time and in ours. How were they able to represent the positions they took—socially responsible, and, in many ways, spiritually articulate advocacy for patient care and the total relationship—as the end of a great era, rather than the beginning of a new one? Perhaps they were the last heirs of Sir William Osler and not the prophets of a brave new world of humanistic medical practice. In a strange sort of way, Cabot and Peabody were far more relevant to their circumstances than we appear to be to ours, at least until quite recently. The reforms of medical education would seem to owe great obligation to these old Bostonians.

Lee Schwamm is a medical student who gave me the privilege of reading his account of his response to what I gather is that terrifying rite of passage for every first-year medical student—the first dissection—and the kind of reverence it instilled in him. Talk about care of the patient, here is a patient no longer with us who evoked this response. Lee, would you care to say anything about that?

Lee Schwamm: One of the things that has struck me very profoundly in medical school is how many of the things that we do evoke spiritual or religious concerns. Whether or not we're observant, whether or not we were raised in a traditional religious household, we are constantly challenging religious and social customs and mores. The sense of taboo around the dissection, around speaking to someone about feelings of mortality or sexuality—we violate all of those. Social sanctions are often phrased in the form of religious sanctions, and that's how they're enforced

PHOTO BY LAURA WULF, HARVARD NEWS OFFICE

in our culture. I think the New Pathway, in some ways, is a sort of a secular humanist attempt to broach these issues and to begin to make students more capable of handling the feelings engendered by stepping into territory that has previously been "forbidden."

I found the anatomical dissection a particularly disturbing experience. One of the experiences I brought to medical school was that of being a patient and having had a life-threatening illness. (I had thyroid cancer in my early twenties.) Imagine the irony of my finding a course called Patient/Doctor, since in a way that's how I think of myself, as a "patient/doctor." I was surprised to find that Harvard Medical School was actually receptive to the human side of medicine, that the relationship between patient and doctor was itself a field to be studied.

What strikes me in a gathering such as this is that we are in the business of healing. Teachers, doctors, ministers, we all need to recognize, and are taught to recognize the issues raised by life and death in our "patients," but what about recognizing them in ourselves? Diseases such as AIDS, in which young people die a painful and isolated death, demand an explanation. Many of the explanations offered are filled with religious overtones: illness as a punishment for sin, a plague on the sinner's house. The air is full with these metaphors, whether or not they're addressed as religious issues or as psychosocial issues.

I kept a journal my first year of medical school and I wrote in it the day we began our dissection, when we peeled back the sheet and cut into what had been, at one point, a human being. We had received a letter in our introductory materials, an anonymous letter from a woman who had donated her body to be a cadaver. I had read it beforehand, and it had made me feel deeply aware of and connected to the male cadaver that I would be working on for eight weeks. Through her letter, that woman had offered a deep trust to me, the student, which I think in many ways foreshadows my experience as a physician. I mean, you might think that the ultimate act of trust occurs when a patient places his life in your hands. But to me, then and still now, it seems an even greater act of trust when he placed in my hands the responsibility of caring for him after he could no longer know how I would care for him, or know if I had defiled the sanctity of the incredible gift that he offered me. That tremendous act of courage and of trust made me feel connected to the—I have to say—soul of this man, because what else was there left of this person to feel connected to?

Peter Gomes: Ben, you by all measures are our senior religious colleague at Harvard, and I won't embarrass you by mentioning how many years, but we yield to you. You have seen so much and been a part of so much, I wonder what you would care to say.

Ben-Zion Gold: I've been a rabbi and director of Hillel at Harvard for 30 years. I'm grateful that this conference introduced me to Peabody's *Care of the Patient* and its very sensitive, eloquent ways. I consider it to be an important statement about how a person who is entrusted with the care and the health of another human being might behave. Dr. Peabody's ideas are informed by respect for the human being and by a great sense of empathy. He's dealing with the idea that human beings should not be reduced to the ailing parts of themselves which they may be presenting in a moment of illness, but as a whole.

This is a religious view at its best. Religion has made an effort to have us remember at all times the whole person, including the transcendent part of him. This is suggested by the metaphor of creation in the Bible. God created human beings from the Earth and blew into their nostrils the breath of divine air—thus linking the sublime with the mundane to create human beings. The Hebrew Bible tried to impress this on us right from the outset.

From personal experience I have learned that the respect given to a patient also has practical implications. It often enables the patient to harness his or her considerable energy and become a partner in the healing process. Peabody was right, investing a little time—and I emphasize time—in getting to know the patient pays off a lot in the end. How many people are imbued with this attitude? How many are willing to make that investment of time? Is there something in the education of a physician that would incline him/her to do this? I believe that if it is part of the orientation of medical education, if it is emphasized on a par with anatomy, etc., there is a chance it might become a part of the physician's attitude.

So much impinges upon the young student and upon the physician that he has to make a decision on how to deal with time and priorities. If you come to your patient with a sense of awe and a deep respect for human beings from the religious point of view—believing that the human body and the human mind are extraordinary creations—then this orientation and respect would lead

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Everybody, sick or well, is affected in one way or another, consciously or subconsciously, by the material and spiritual forces that bear on his life, and especially to the sick such forces may act as powerful stimulants or depressants. When the general practitioner goes into the home of a patient, he may know the whole background of the family life from past experience; but even when he comes as a stranger he has every opportunity to find out what manner of man his patient is, and what kind of circumstances make his life. . . . What is spoken of as a "clinical picture" is not just a photograph of a man sick in bed; it is an impressionistic painting of the patient surrounded by his home, his work, his relations, his friends, his joys, sorrows, hopes and fears.

—Francis W. Peabody

Brought up in a tradition that made shirking unthinkable and being sensitive to the pleasure and pain of other people, [Peabody] proposed to see [his own death] through as handsomely as was humanly possible. This he did. And the result was that we, ashamed of our midnight terrors and our petty fears, found ourselves looking to the dying doctor for guidance toward health of body and soul.

—LANGDON WARNER, IN THE *BOSTON EVENING TRANSCRIPT*, NOVEMBER 1927.

you to make decisions in terms of allocation of time. I think this is a very difficult task. The demands made on one's time, not only on students but also physicians, are so real and so pressing. I'm concerned about where these people, under the pressures that they are, are going to find a balance. What is going to help them regain this sense of respect and sense of hope. Is it going to be couched in beautiful essays like *The Care of the Patient*, or is it going to be something necessary enough to be a cultivating force? I mean, let's face it, going into a classroom with excellent knowledge of a subject is laudable but for the stuff we're talking about, you don't get any stars. Where do you get the strength to withstand all those pressures. How do you develop that strength?

Lee Schwamm: One way is to give out "stars" for personal concern. When faculty are willing to reward thoughtfulness, insight, care—willing to promote and recognize these aspects of behavior in addition to factual knowledge—it has very powerful consequences.

Peter Gomes: Sister Mary Karen Powers is with the Harvard/Radcliffe Student Chaplaincy and comes here from Miami University in Ohio. She brings to the room the experiences of another place and, I also understand, that of the patient as well as a chaplain and a co-healer. I wonder if you might want to pitch in at this point.

Mary Karen Powers: What has been striking to me in this conversation is a perspective of patients that I have acquired from patients as the pastoral counselor for Hospice of Cambridge. The work I do there is attending to patients who are dying. I'm beginning to recognize that in their death process, the whole question of life and what it is to live is raised very sharply, and that the question of life and what it is to die is a part of living. Being with a person as they evaluate and let go of life as they've known it raises the awareness of mortality. It comes to many of us not in terribly philosophical language, for example, in recognizing that a patient is going to die leaving very young children. No amount of care that we can give is going to tie up all the "loose ends." They are going to die, their life is unfinished, so that this experience of mortality really becomes very poignant for all of us. And it has strong spiritual overtones.

It is also striking to me that last year I was diagnosed as having a melanoma—a disease from which many of our patients die—and I was restored to health, as opposed to having my life end. I found myself in the process coming back to questions about my own life and its meaning. I discovered that they were connected to the spiritual perspectives of a lifetime—connected to the way I'd lived my life, all my life and not only to the immediate issues surrounding my illness.

I have a sister who is a physician, a psychiatrist, and a brother who just finished his first year of residency. Proximity to healing, to suffering and to death raises the same questions in them, but often in a framework where there is not time to reflect on the questions.

My brother's first child was born his last year in medical school when he was working in a pediatric emergency unit—so his own little girl's birth occurred in the process of dealing with critically ill children. He and I have since talked about the preciousness of life, the gift of life, and illness and what that means, and how the two come together.

One of my sister's patients during her last year of residency—whom she and the attending physician did not commit to the hospital—went home and killed a family member. When she called me from California that night, we had a long conversation about many questions surrounding responsibility and guilt, the human condition of suffering and the inability to heal suffering. These are strongly spiritual questions, which she does not ask in a traditional theistic context, but which are clearly part of her experience as a physician actively involved in patient care. By profession, I'm a chaplain but my conversations with my sister are framed in our familial relationship. I've often wondered where those conversations happen for physicians and medical students who don't happen to be related to a chaplain.

So as a chaplain in a health-care setting, some years ago I began to cultivate conversations with nurses and medical students. The same questions I heard from patients and their families clearly came up with care-givers too. Particularly, as someone said earlier, in young people in their early to middle twenties. Most of us have not, at that point, actually dealt with a life-threatening illness or physically seen someone die. Those experiences have tremendously strong emotional and psychosocial components and I think they also raise in us our own questions about spirituality.

The gift our hospice patients has

given me is the recognition that underneath our formal theological questions are deeply human experiences that we all share.

A friend of mine says that catastrophic illness is catastrophic disruption of the relationships that sustain our lives. The question of immortality is a question about how those relationships persist, or don't persist. Certainly there are different theological and philosophical answers, but the question is essentially a human one. A question that arises out of the richness of life and the limits of life. I don't see how folks actively practicing medicine can get away from living with the interface of those experiences day to day. As a chaplain, that makes my work both rewarding and enriching, and at times emotionally exhausting. And it's not one or the other, but both entwined together in the process of dealing with people.

Peter Gomes: I think there's been a tremendous amount of progress made in the quality of conversation among the kinds of care-giving people we represent.

I remember as a student at Harvard Divinity School, nearly 20 years ago, hearing from my friends, those students who were in various clinical pastoral settings at Massachusetts General Hospital, Mass. Mental or other such places. We were all 23- and 24-year-olds, right out of college, first year divinity school. We were sent off to serve at the feet of the mighty medical people and would come back terrified and terrorized by our experiences.

We were overwhelmed by the seeming competence of the medical establishment. Not only were they arrogant but they had a right to be arrogant—they knew all there was to know and we had nothing. What could we possibly do? Here we were shaky in our faith anyway, young, inexperienced in the world, and in we go to the smell of ether and alcohol, where these arrogant young medical bucks, who barely tolerated our presence and—only when all hope was lost, and nothing more could be done—said, "Over to you Jack." And we would go in, and not quite sure what to do, since we weren't sure about the next life and even less sure about this life!

There was a kind of antagonism and hostility built up over the years and I think it's affected my whole generation of clergy in their relationship to the medical establishment. Then we "discover" Francis Weld Peabody. We came to maturity in the heyday of medical technology and low day of theological self-security. All of this is to say that I came to a new view, a different understanding of the relationship of the physician and pastor.

My colleague, Loring Conant, has illustrated the relationship for me. We have shared the care of a patient equally whom we loved and watched die and sent out of this world. This doctor cared not only for the patient on the bed but for his colleague, and that's a rare and wonderful sort of thing. Given that, you, almost more than anyone else I know, speak to this sort of thing and have for a very long time. I wonder if you read Francis Peabody in medical school.

Loring Conant Jr.: I led a very deprived education, Peter. I did not read Francis Peabody in medical school. But I also highlighted the same quotation from Dr. Scannell's article on Peabody, since I have found myself often on the "border of religion" in the presence of patients, particularly those with a life-threatening illness or those who are terminally ill.

I had the Peabody message delivered to me by a very forthright Methodist minister who stood on the opposite side of the bed of my patient, a young man in his mid-twenties dying of kidney failure. He chastised me for not calling him since he, as pastor, was very necessary for his parishioner's health and well-being. I was an intern at the time.

I was further enlightened about the Peabody principles of being a good listener early in my medical practice when I participated in a conference at the College of Preachers. For three days, 33 of us (1:1 ratio of priests to physicians) explored through the creative use of video tapes the complementary roles of us care-givers, attempting to address both the spiritual and physical needs of the patients. The requirement for careful listening is so great. I am impressed that Rabbi Gold really hit on what I think is one of the most formidable professional struggles for physicians—being sensitive to how we allocate our time, knowing that when we focus our time and energy on one area or patient that we're going to take time out from another.

I am reminded of the number of events experienced by the patient and the patient's family/friends when we encounter a patient who is approaching the end of his or her pilgrimage with a terminal illness. It is a tremendous challenge and necessary for us caretakers to be aware of the variety of those events that affect the patient's spiritual, mental and physical comfort. It's everything from when the patient comes to you the first time with symptoms to the

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Coincident with these days of unperturbed companionship, the period of invalidism gave Francis time to reflect with fresh interest on the problems of the religious life. . . . It was an interesting coincidence that in the home, and even in the bedroom, of William James, the same evidences which had illustrated to that master the *Varieties of Religious Experience* were again examined.

—Rev. Francis Greenwood Peabody

time the diagnosis is established, then the surgery, the radiation, the chemotherapy and finally the decision of no-more-treatment. Was there a delay in making the diagnosis, how did you deal with the waiting period once the biopsy was taken, how did you communicate with the patient and the family about the uncertainties, how did you handle the truth-telling about the diagnosis, and were there secrets?

At least two of us here have been patients with a serious illness and are certainly aware of these events and the recurrent theme of the struggle with uncertain symptoms, the rise and fall of apprehension, the resolution, and eventually the repetition of this sequence. Being able to be present in the tradition of Francis Peabody to our patients and their families as they course through their illness—whether in the office or at the bedside in the hospital or at home—is our greatest privilege.

As for my own spiritual journey, I feel closer to religion and religious issues at the bedside than in a church. I've had several patients, who in that moment of clarity that sometimes occurs when one is approaching the end, hold my hand, look me in the eye and say "I look forward to meeting you again someday."

I have begun to find in my own work that I am continually on the border of religion when I talk to patients.

—FRANCIS W. PEABODY

Ben-Zion Gold: As I was listening to all of you I was thinking about some of my own experiences ministering to people who are dying. Recently I visited a friend, a member of the faculty, when it was clear that his life was coming to an end. I felt something extraordinary was happening, an experience that will not be repeated. In our relationships, we expect there'll be a re-take so we sometimes slouch. Here was an experience that had no re-take, and one hopes to rise to the utter seriousness that the occasion calls for.

The question that I asked myself was "What is it that I can do for this person who is dying?" And it seems that the only thing you can do for that person is confirm his or her humanity. My friend was so encouraged and cheered when I said I believe in the immortality of the soul. "Do you really believe that?" he questioned me. And I said yes and he felt relieved. It's not that he didn't believe in it, he wanted the confirmation of someone who was not dying. He was such a consummate scholar; "Am I fooling myself or is some guy who is not yet dying thinking the same thing." That was very important to him.

In another instance of a person dying of cancer, reading Psalms just didn't do anything and I felt helpless. It was my first experience as a rabbi. Something in me suggested I should stroke his hand and this just about revived him. Time and again I have reflected on that—to be affectionate to a dying person is probably the kindest thing you can do. Dying is a lonely business and to express affection at that moment is so important.

People raise theological questions like "Is there a hereafter?" and so on. I don't know whether they expect theological answers, but they do want a truly human presence that will make meaningful the moment of having to depart from this world.

Peter Gomes: I am interested that you talk about the privilege of being at the bedside. Many ministers, priests, rabbis that I know still feel terribly inadequate there thinking we should be able to do something demonstrably clinical. I remember being at the bedside of a very dear old soul I had known all of my life. She was filled with old-fashioned piety, which in almost any other setting seemed so quaint and slightly out of place. I was at her bedside and I was stroking her hand and she said, "I am going home today but no one is listening." She had been speaking all morning, nurses were coming in and out. They knew it was the end and they were aflutter and adither. They said the poor dear's hallucinating; she's talking about going home.

"They don't understand, but you understand that I am going home," she said, and I heard her for the first time and knew exactly what she meant. It was my mission to translate that to the nurses, who said, "Oh, *that's* what she means." It was that moment of luminousness from the bed that finally dawned on me, and then enabled me to help it dawn on people who were far more knowledgeable. That was one of the most potent moments I have ever known.

Mary Karen Powers: Two things strike me. One is how often the patients I see in hospice reach out physically to me, if I don't touch them first. That touch is often more profound than language.

I remember watching my mother sit with my father the night he was dying. He was admitted to the hospital with lung cancer. She kept saying over and over again, all night, "It's okay, Bill, we're here with you. We won't leave you alone." Her verbal reassurance was there but she was also holding his hand.

It dawned on me that one of my strongest metaphors for the holy is the sense of the presence of God. It's not a completely spun out philosophical or theological image, but simply the presence of the holy in my life. It struck me that that was the interchange happening between my mother and father as my father was dying. That interchange of simple presence that is both profoundly human and profoundly spiritual often occurs between family members and myself, or the patient and myself. I often see that, in a sense, I'm not *doing* anything, while all kinds of questions about the patient's medication and physical care are going on around me. There is an immense amount of attending to the physical well-being of the patient. That is necessary. That has to happen. But connecting to the *whole* person, on some level, being *present* with them, is also at the heart of healing.

Then I say to myself, "Where is that being *present* built into the professional care of a practicing physician? How does it happen in the middle of all the hectic activity? Either these profound human experiences just wash over sensitive care-givers—which I don't believe—or that being *present* to or *present* with needs to be dealt with as part of the care-giving process.

Loring Conant Jr.: Peter, you commented that you felt that you and your vocation had very little that's tangible to offer at the bedside of the dying patient. What do you think the physician feels when all the medication, all the surgery, all the procedures that could be offered to a patient to sustain life have failed? How helpless the medical profession feels and how awkward it is for a lot of our medical colleagues to just be present and to realize that there's a great deal of "caring" not "curing" that could be offered at the bedside. Rabbi Gold commented on holding the hand of a dying patient. I regret to say that formal medical training does not address this issue, at least not in "my days."

Being able to address our own mortality, no matter what our vintage, is a very difficult issue and has to be addressed constantly. It will certainly influence how effective we will be with our patients. Sitting down at the bedside and being physically present, whether it's having your hand on a shoulder or holding hands, or sitting by silently, these are the fundamental ingredients for the human connection between the caregiver and the patient about which Peabody spoke so eloquently.

Dorothy Austin: I think it's interesting that we're talking about the ways in which the care of the whole person within medicine is being made more sensitive to spiritual issues, religious sensitivities. I think that medicine may well be leading the way. Peter Gomes and I have had many conversations about similar issues in theological education. I think there's much that can be learned in theological education from what's happening now in medical education. Many of the same tensions that Francis Peabody speaks of—for example, the need to find the right balance between "dispensing medicine" and caring for the whole person—are not unlike some of the tensions experienced by theological students training to become religious practitioners and healers. They experience a tension between "dispensing" as it were, religious remedies or religious reassurances and caring for the whole person.

I'll give an example: a health care professional came to see me the other day. She sat down and said that five years ago she had had an abortion and had felt, every day since that time, that she was a murderer. These feelings had been wearing away at her so intensely that she had begun to feel that she couldn't trust herself in the healing relationship with her patients, and that her authenticity, in her own eyes, as a healer was now very much in question.

As we talked it became apparent that she had sought religious counsel as well as psychological counsel in trying to come to terms with what had become for her a "hopeless, unresolvable problem." She said she felt certain that she couldn't recover without some religious forgiveness, that only God could really help her because she had taken a life. At the same time, she said she was terrified that a priest might condemn her, in which case she wasn't sure she could survive such a judgment. On the other hand, it was also clear that a "too easy forgiveness," which is the way she put it, would be a sham and of no help whatsoever.

Later that day, I found myself thinking about this woman, and about how important it is to be able as a professional practitioner to take a religious history. Medical students learn a great deal about taking a medical history. Theological students need to learn a similar art of being able to take a religious history; medical students need to know something about that as well.

What does it mean to take a religious history when listening to a patient? How do you listen for spiritual dissonance, whether you're a doctor or a

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The good physician knows his patients through and through, and his knowledge is bought dearly. Time, sympathy, and understanding must be lavishly dispensed, but the reward is to be found in that personal bond which forms the greatest satisfaction of the practice of medicine.

—FRANCIS W. PEABODY

religious practitioner? How do you think about religious disabilities in times of great stress? How do you listen for the religious sources that are available in a person's life that will be of help in healing? Of course we have courses like the one in medicine and religion—that bring people together across disciplines, where students and beginning practitioners and teachers have a chance to observe one another in the approach to the person, including the conceptions and misconceptions we have of our own and other disciplines. We can learn a great deal from one another about healing and care.

Lee Schwamm: As I sit here listening to the important question, "Where is this special 'place,' this place where the physician doesn't become overwhelmed, can sort out priorities, can find time away?", it strikes me that in many ways the physician is as much a patient as the patient. The physician is also suffering in this experience, suffering from many pressures, many stresses, confronted with responsibilities that seem beyond his abilities. The answer that I have been searching for, the location of that "place," is what's taking place in this conversation—that "place" is a community, the sense of closeness in a community of believers. Whether that's a theological notion or not, it's a sense of other colleagues, other people, other practitioners who reinforce the value of struggling with these issues, who reinforce the truth about just how much we do struggle and who help keep you from becoming afraid to admit you're afraid.

As someone who is trying to learn how to become a physician, this community of faith is as strongly spiritual as any I have encountered. When I was in the hospital recovering from surgery and feeling terribly alone, my physician came in, pulled up a chair, sat next to me, took my hand and talked to me. At that moment I was no longer alone.

But now I realize that when you go into the room of a patient who is dying, you also feel alone. It's just you alone in the room of a dying patient, with no one to support you or help you. You've got to have faith that it's worth the struggle. And it helps me to know there are others such as you who are also struggling.

Peter Gomes: My sense is that in those limited but intense circumstances in which I and other clerics have found

MATTERS OF FAITH

Students Follow their Own Course

by Carola Eisenberg

There is no simple way to describe the religious feelings of Harvard Medical School students. No characteristic, other than their remarkable talent, epitomizes them more than their diversity. That is as true for the religious feelings they express as it is for their political beliefs or their career choices. Our students encompass a number of devoutly religious commitments, including some who have served as missionaries or are planning to do so, while others declare themselves agnostics or atheists. Many of the latter, however, profess some form of secular humanism, much in the tone of this *Bulletin*'s "agreeable conversation."

With full recognition that the most I can offer are qualitative and partial views of themes in students' religious beliefs over the past 10 years, I nonetheless do sense an increased role of religion in student life—an opinion shared by a number of students with whom I have spoken in preparing this article.

At the formal religious level, Harvard Medical School has long had societies representing the Protestant (the Christian Medical and Dental Society), the Jewish (the Maimonides Society) and the Catholic (Catholic Student Association) traditions. All three report higher levels of student activism in recent years.

The Protestant group appears to be the most activist of the three. Its orientation message to incoming students announced: "We are not physicians in training who happen to be Christian, but Christians who happen to be physicians in training."

The Jewish group stresses exploration of ritual and tradition and invites non-Jewish students to join in its activities. Several such students regularly attend "in order to learn about a tradition which is not mine," to cite one.

We have not yet, but may soon see, the formation of new religious groups, given the increase in students from Asian backgrounds (Korean, Indian, Chinese, Japanese and Vietnamese).

Some students contend that secular student organizations—such as those devoted to holistic medicine, Ayurevada for example, and to medical care projects in underprivileged communities— are, in a sense, outlets for spiritual feelings. Some participants in these groups, however, resent such spiritual implications and dismiss them as "religious imperialism," to quote one student activist.

Quite apart from matters of specific religious rituals and traditions, many students speak of the humanitarian impulses that led them to choose careers in medicine as having sprung from deep spiritual feelings. Some see the love and concern they have for their fellow students, as well as for their patients, as being, in Peabody's words, "on the border of religion."

They speak of a need for answers to questions that go beyond the cognitive and the scientific. Indeed, several speak of their gratification upon finding "how many scientists are religious persons."

A number of students have remarked that they find themselves and their peers to be in search of ethical rules to guide their everyday lives. Unlike the rebellious youth of

ourselves present at the bedside of the dying, there are moments of great clarity. Integration of all one's life in this world and the next, health and sickness, failures and success. All of these things somehow call out to be integrated by that person, and that person almost invariably, if articulate in some way or other, is able to do that. This integration is, at least in my sense, quite opposite to the kind of training both ministers and doctors receive because we clerics, theologically educated people, have for so long taken what we thought to be your medical model and tried to adapt it to ourselves. And your model, as we understand it, is not integrating things at all but segregating things in order to see more clearly—dissecting and labeling and categorizing and distinguishing among things. And we have tried to do that because we wanted to be respectable as you are. So it means that the dying person has the ability with his or her last breath to point out to both of us the foolhardiness of that view of the world.

Medicine finally has recovered in some sense its mystical origins in which its science was the servant. This new curriculum at the medical school seems to help the sensitivities of people such as yourselves. Integration of all those things heretofore segregated and carefully organized is now the ambition, and the care of the patient, the whole patient, is your work. This invokes not just skill, but drive and finally resignation.

We haven't yet reached that stage in theological education. We're moving just the other way by trying to make sense of it all, trying to be able to be clinically correct and to dignify our presence with more than what it is we're asked to offer. If a conversation like this does anything, my hope would be that it would stir some theological reflection so that the professional preparation of the clergy might once again begin to take profit from and recover that sense of wholeness, the holiness of the whole enterprise.

This brings us back to where we came from, our common origins, because we were not always two separate professional camps. You will remember it was the priestly role with its component of healing and holiness out of which our two callings came. They've gone their separate ways but perhaps in the care of the patient, as it were in that moment of luminosity, that moment of enlightenment, we might come back together. At least I hope that there's a possibility of that. □

decades past, this generation of students no longer feels the need to defy the standards set by their parents, and is in fact, much readier to identify with parental values. For those who had formal religious affiliations stressed at home, that identification is continued. Yet a number of students whose parents have been no more than nominally observant have returned to the family church with strong convictions.

For the most part, our students are enormously respectful of the religious beliefs of their classmates. It is indeed a rewarding experience to have the privilege of listening to a Hindu, several Protestants and Jews, and an atheist search for common ground, which they seemed to find in love and respect for personhood. Many more attend services than did students in years past, but their prime concern is with finding ways to integrate their religious principles into their daily lives as students.

None of the students I encounter see any role or responsibility for the medical school vis-a-vis religious issues, yet the school does provide a number of opportunities for students to grapple with the questions religion addresses.

Each year, I invite all incoming students to meet with me, in groups of about 20, so I may tell them about the peer discussion groups led by faculty members. A half to two-thirds of the students agree to join these groups for at least the first semester. Most groups last the academic year, and about half continue into the second. There is no agenda and no limit to discussion topics— from an upcoming exam to a death in a family. For many of the participants, the experience is an immensely rewarding one. For me, it has been an unique opportunity to share thoughts and feelings with a sensitive and gifted group of young colleagues. While we do not often discuss religion *per se*, we do deal with intimate personal feelings and broad philosophic questions.

A number of students have expressed their gratification with the Religion and Medicine course, offered as an elective for medical and divinity students. That course, co-taught by Robert Lawrence of HMS and Dorothy Austin of Harvard Divinity School, encourages exploration of the common features of the pastoral and the medical roles in helping parishioners and patients cope with life's adversities.

Many students find Robert Coles's course Literature and Medicine an unparalleled opportunity to think about fundamental existential issues which they regard as akin to religious questions.

A third course, offered for the first time last year, entitled Literary Exploration of the Human Condition is led by Nobel Laureate Salvador Luria, an institute professor *emeritus* at MIT and a visiting professor in the HMS department of social medicine. Luria uses novels, short stories and poems to stimulate students to think deeply about what matters to them in life.

For some students, similar opportunities arise during the longitudinal Patient-Doctor tutorials in the new HMS curriculum. The extent to which such questions are dealt with varies with the tutor and the composition of the tutorial group, but the designers of the course encourage discussion of matters that go beyond the technical.

It has been my distinct impression during the decade I have served as dean of student affairs that religion has become a greater force in the life of many students. (I was going to say the "average student," but there is no such beast here!) There are certainly more students now who are deeply religious, although such students are still in the minority.

What is more notable is the increasing number who find support for their humanitarian ideals in religious membership, and who have reaffiliated with religious institutions. And even among those who identify themselves as secular humanists, there are a good number who acknowledge similarities between the humanitarian impulses that actuate them, and the religious values that matter so much to many of their peers. □

Carola Eisenberg, MD is the dean for student affairs.

Psychoanalysis and Religion

Sharing the Same Couch

by Robert Coles

Sigmund Freud was relatively unknown, and a resident of a strongly Catholic city when he dared take on belief in God at a meeting in early March 1907 of the Vienna Psychoanalytical Society. He presented a paper entitled "Obsessive Actions and Religious Practices." Most of the observations were clinical—the work of a brilliant physician connecting instances from his practice into a narrative presentation meant to convey a theoretical point of view. But at the end of the paper, when Freud mentions "the sphere of religious life," a morally argumentative strain begins to appear. The reader is told that "complete backslidings into Sin are more common among pious people than among neurotics," an incautious generalization even then and a quaintly unsupportable one now.

When Freud approaches "religious practices," he is intelligent and helpful to the kind of scholar who is not interested in debunking, but rather in understanding man's church-going industry. The "petty ceremonials" of a given religion can, he points out, become tyrannical; they manage to "push aside the underlying thoughts." He suggests that, historically, various "reforms" have been intended to redress "the original balance"—rescue beliefs from arid pietism. But in his concluding paragraph he tries to join an analysis of psychopathology to social criticism: "One might venture to regard obsessional neurosis as a pathological formation of a religion, and to describe that neurosis as an individual religiosity and religion as a universal obsessional neurosis."

Religion clearly excited Freud to truculence. Nowhere is this more evident than in *The Future of an Illusion* (1927). He starts out warning himself to be objective, to summon a long-range historical view, to be modest and restrained. Yet Freud quickly connects religious ideas to man's obvious helplessness in the face of life's mysteries. He then connects *that* condition to the child's predicament—"an infantile prototype." After pointing out that there is no conclusive "proof," in a modern scientific sense, of God's existence, he refers to "the fairy tales of religion," and indicates with a rising vehemence that religion is a mere illusion, "derived from human wishes."

"Ignorance is ignorance," he reminds us, and adds immediately, "No right to believe anything can be derived from it." And then: "In other matters [than religion] no sensible person will behave so irresponsibly or rest content with such feeble grounds for his opinions." He declares that "the effect of religious thinking may be likened to that of a

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SCHARF

narcotic," and that religion, "like the obsessional neurosis" he had described so vividly years earlier, "arose out of the Oedipus complex, out of the relation to the father."

To his great credit, he then pulls back and acknowledges that "the pathology of the individual" does not provide a fully accurate analogy to the nature of religious faith. But he is soon referring to faith as "the consolation of religious illusion," and expresses the hope that in some future, when human beings have been "sensibly brought up," they will not have this "neurosis" and thus they will "need no intoxicant to deaden it." Then at the end he embraces "our God, Logos," insists yet again that "religion is comparable to a childhood neurosis," and makes an invidious distinction between his stoic adherence to science and those who look with faith to God: "My illusions are not, like religious ones, incapable of correction. They have not the character of delusion."

In the lives of children, God joins company with all sorts of kings, generals, superheroes, witches, monsters, demons, friends, brothers and sisters, parents, teachers, police officers, fire fighters, and on and on.

Few Freudian psychologists have challenged Freud's views. But in 1979 Ana-Maria Rizzuto, who teaches at the Psychoanalytic Institute of New England, published a major study of the relation between psychiatry and faith, *The Birth of a Living God*. "The cultural stance of contemporary psychoanalysis," she begins, "is that of Freud: religion is a neurosis based on wishes. Freud has been quoted over and over again without considering his statements in a critical light."

Examining her own experience as a psychoanalyst, she finds herself rejecting Freud's assertion that "God really *is* the father." She also rejects his insistence that religion is a kind of Oedipal offshoot, a "sublimation"—a means by which erotic and aggressive feelings toward a particular man, the father, are given expression. Such an explanation she argues, takes an extremely complicated and never-ending emotional and intellectual process and "reduces it to a representational fossil, freezing it at one exclusive level of development." Extremely preoccupied with "the father-son relationship" in his analysis of the psychology of religion, "Freud does not concern himself with religion or God in women."

She seems especially influenced by the English psychoanalyst D.W. Winnicott's revisions of Freud—a result of his work as a pediatrician and child psychoanalyst. Winnicott did not find that a baby's mental stratagems were similar to an adult's ideas or inclinations. He pointed out that early on, all children learn to carry within themselves ideas and feelings connected to persons, places and things, and these mental "representations" attest to nothing less or more than powerful human capacities.

It would be foolish to equate a baby's attachment to a blanket with a poet's use of synecdoche or a supplicant's attachment to rosary beads, but there *is* a connection—as in that between incipient and full-fledged humanity rather than early and later psychopathology. What analysts such as Winnicott or Rizzuto aim to document is a beginning effort at self-definition through our thoughts and interests, likes and dislikes, fantasies and dreams, affections and involvements.

Rizzuto calls *one* of these efforts "God representation," referring to the notion about God that most of us in the West acquire early in life from what we hear at home, at school, in church and in neighborhood playing lots. Even agnostics or atheists, she finds, have had ideas about God and given Him some private form—a mental picture, some words, a sound.

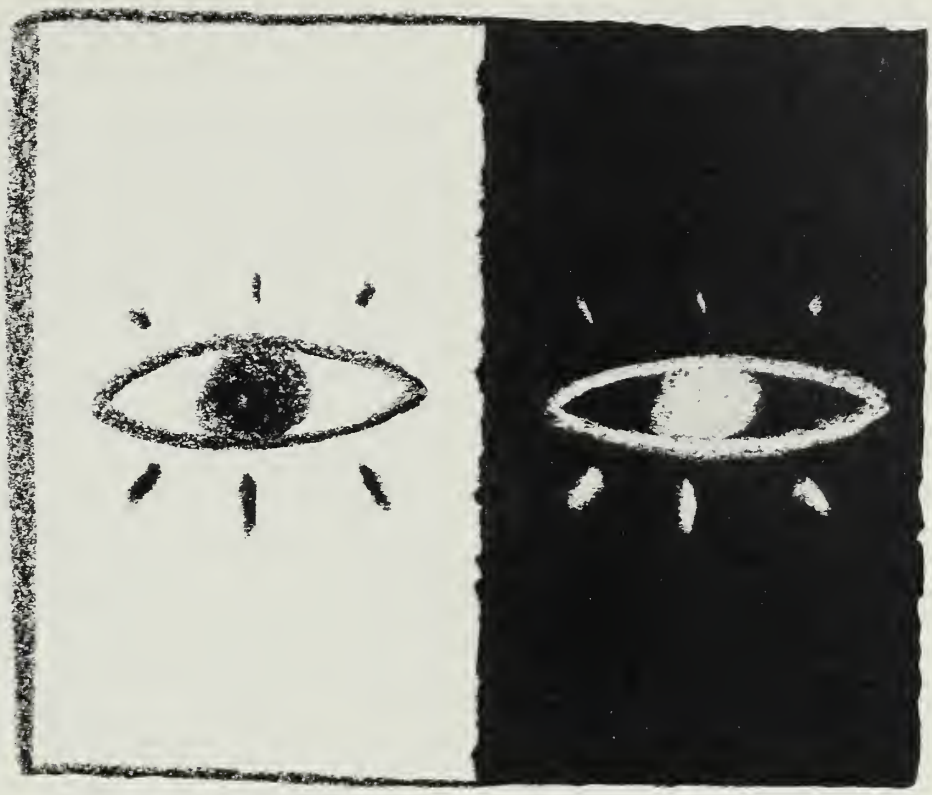
In the lives of children—as parents know in one way, child psychiatrists in another—God joins company with all sorts of kings, generals, superheroes, witches, monsters, demons, friends, brothers and sisters, parents, teachers, police officers, fire fighters and on and on. Rizzuto offers histories of His presence in the minds of people who firmly call themselves nonbelievers. She points out that God may be someone rejected, denied, ridiculed as well as embraced and/or relied upon constantly. Each of those psychological attitudes can be connected to the constraints and opportunities—and good luck and bad luck—of a given life. Her interests, in this regard, are not clinical or categorically judgmental. She is writing as a phenomenological psychologist.

Freud continually returned to the idea of God. He wrote about His origin in the minds of others, devoted numerous articles and three books to Him. Why? Not necessarily to work out a "problem." As did Winnicott, Rizzuto sees religious ideas as part of our cultural life—like music, art, literature, or for that matter, formal intellectual reasoning and scientific speculation. They are all connected to our endless effort to place ourselves in space and time, to figure out where we come from and what we are and where we're going. In a touching statement at the end of her book, she arrives at the point where her "departure from Freud is inevitable," great as her daily professional loyalty and obligation are to him:

Freud considers God and religion a wishful childish illusion. He wrote asking mankind to renounce it. I must disagree. Reality and illusion are not contradictory terms. Psychic reality—whose depth Freud so brilliantly unveiled—cannot occur without that specifically human transitional space for play and illusion . . .Asking a mature, functioning individual to renounce his God would be like asking Freud to renounce his own creation, psychoanalysis, and the 'illusory' promise of what scientific knowledge can do. This is, in fact, the point. Men cannot be men without illusions. The type of illusion we select—science, religion, or something else—reveals our personal history—the transitional space each of us has created between his objects and himself to find a 'resting place' to live in.

In her view it is in the nature of human beings, from early childhood until the last breath, to sift, sort, and play; first with toys, games, Teddy bears and animals, then with ideas, words, images, sounds and notions. We never stop trying to touch base with significant others, to settle upon some satisfying idea of who and what we ourselves are and then to build a world that is ours—with blocks or bricks or iron, with money and signatures of ownership, with acts of affirmation and loyalty and affiliation, with outbursts of meanness and rancor, with mental images, and not least, with theories saying the life we live should go one way or another.

I was trained to work with children medically and psychiatrically in the 1950s at the height of the psychoanalytic orthodoxy that Erik H. Erikson has described in his memorable epilogue to *Childhood and Society*. The girls and boys, men and women whom I met in hospitals and clinics all too often were turned into a reductive putty in my mind. Even today I recall sadly some of the thoughts I had and the words I used as I worked with children who had their own moral concerns, philosophical interests and religious convictions. Yet, I too often focused relentlessly on their "psychodynamics."



In particular, I remember an eight-year-old girl, Connie, whom I treated at the Children's Hospital in Boston for two years. I suspect Rizzuto would have found this child to be a helpful colleague in her religious and psychoanalytic explorations. Connie was utterly accepting of the Catholic Church. What Connie lacked, I certainly at the time felt pressure to possess—a sharply fault-finding, even disparaging attitude toward her involvement with a certain parish's ongoing activities.

"The Church saves me," she once told me. I dutifully wrote down the assertion and naturally asked for details: how does it do so, and what is thereby "saved?" She told me she sensed "bad habits" in herself, and they were only confronted successfully, she claimed, by prayers in church and by talks with a priest who was a great friend of her parents.

When I first heard that expression "bad habits," I had a hunch it was a smoke screen for the sexual activity I presumed she both felt inclined to, or did, implement. As for my supervisor, he wondered in that regard about the thin remnant of doubt I seemed still to retain: "In a while she will talk with you about her sexual life, and all this religion talk will go away," he reasoned.

I wasn't about to disagree. On the contrary, I kept trying to bring about just such an outcome by asking questions and picking up on comments Connie made in such a way as to take us closer to the kind of "resolution" my supervisor envisioned.

Gradually I began to realize that a concrete struggle of viewpoints was taking place in this child. She had been referred to us in the child psychiatry unit at the hospital because she was unruly at school—fresh and surly with certain classmates, and finally, with a teacher who called her a "tense girl." A school psychologist had talked with Connie and suggested she would become "anti-social" or "delinquent" when she got older if she were not "treated" before then. Moreover, during her initial interview, as mentioned before, Connie agreed that she did have "bad habits."

She was far from willing, however, to convert to our way of regarding her—not that we spelled out with her what we surmised and discussed among ourselves. Rather, she took note of the way we kept asking for more information, while ignoring lots of ideas, thoughts and feelings she most emphatically did make known to us.

I still have in my memory some of our conversations. This devoutly Catholic girl had seen a rerun of the movie "Song of Bernadette," a film about the woman, Bernadette of Lourdes, who would ultimately be sanctified by the Catholic Church. She wanted so much to talk to me about it. I did not, of course, stop Connie from talking about the movie, but I also showed no evident interest in her remarks, at least no interest in their substance. For me, such discussion was essentially "defensive." I assumed she was hiding behind religious interests as a means of not coming to terms with her aggressive and sexual impulses—a subject I had in mind for us to examine as soon as possible. But for young Connie, the movie was an important event in her life that required reflection—as was the matter of her "bad habits," and she willingly shared with me what her mind had concluded.

I thought I was at least being civil and courteous as I waited her out and listened patiently to both her religious speculations and her religious judgments upon herself. However, one day Connie became forthright and critical toward me in a surprising way never before shown. First, she asked me if I was "an atheist or a believer." Astonished, I quickly threw the question back to her (was I not "trained?"), all the while wondering what had prompted a question both personal, and by implication negative in tone. (In Connie's neighborhood, even to ask such a question of people was a statement in itself!)

When I asked her why she asked me that question she said, "because," and then fell silent. I was about to inquire why she had answered that way when she let me know alright. I had no tape recorder going in those days, but I can offer the gist of her remarks.

Doctor, I was told, you're not interested in my religion, only my "problems." But without my religion I'd be much worse off, don't you see? How about *encouraging* me to talk about that movie, about what I experience when I go to church, instead of sitting here, bored, waiting for God to pass from this scene? How about trying to learn what I've learned as a child at home, at church, at Sunday school, so that you will be able to respond to me in my particularity and complexity,

rather than with some abstract, formulaic, reductionist paradigm—of which my mind and its workings seem to be a mere illustrative instance for you?

I need not add that Connie put the matter in her own blunt, earthy, child's language. Some of the above she didn't so much say as convey with a look. ("Our patients can tell us everything with a glance, and let us add the words," Anna Freud once observed.) Some of the above she condensed into her original skeptical question. And yet some of what she said was spoken loud and clear: "I'd like to be like Bernadette was in the movie, but you don't believe me!"

"Oh, you've got someone watching over you, too?" she asked.

How well I still recall that moment, both confessional and accusatory in nature! She was dead wrong, actually. I *did* "believe" her, in the sense that I knew she meant what she said—or that she *thought* she did. That self-serving afterthought is, of course, the heart of the matter for me and my kind. It is our conviction that there is an ultimate or bed-rock psychological reality to whose depths and contours we are especially privy. I wasn't letting Connie tell me about an important part of her life. Instead, I was telling her to hurry up and let me get to the truth underneath, disguised in this child's life by a Catholic fastidiousness.

Thank God (if I may) for Erik H. Erikson's *Young Man Luther*, which had just been released, and for one of my supervisors who had been analyzed by him. By suggesting I read the book, she gave me permission to connect psychoanalysis to religion as Erikson had done in his biographical effort at understanding part of Luther's life. Even though she was not supervising my work with Connie, I felt free to speculate with her on what was happening with the child. From her, I received suggestions which I can paraphrase this way: take her religious life seriously and see where you both go by doing so. What have you got to lose?

That question, word for word, gave me strength, as did the smile and shrug that went with it. Here was a shrewd and relaxed clinician telling a novice to ramble a bit, let the path meander, and, who knows, there might be a breakthrough.

No miracles of the secular kind happened as Connie's therapy progressed, but we continued and began to have fairly earnest and extended conversations. We talked about her "bad habits," about her interest in Bernadette of Lourdes and other Catholic saints whose lives she had heard celebrated at home and in Sunday school.

She told me that one of her "bad habits" was "pride"—and I wondered aloud if she (a mere child of eight!) might explain herself further.

She explained that "pride" is "the sin of sins," and it has to do with being "stuck on yourself." I was surprised and intrigued by her way of putting things. Even today, as I look over the notes I took on her (and used when I "presented" her at a "grand rounds"), I am reminded how idiosyncratic this child was, how thoroughly she had integrated a body of religious imagery and various spiritual assumptions into her young life and vocabulary.

She did not want to become "a religious" she told me one afternoon. When she saw that the adjectival word, turned by her into a noun, had me puzzled, she explained that it's a way some Catholics refer to a person who becomes a priest or a nun. Then she told me why a nunnery would not be suitable for her; she did not want to miss out on a good time in life. Some people, she declared, even children her age, were "more religious than the priests and nuns."

I wanted examples. The one she gave was a "too nice person." She had already made her break from that ideal and had even spoken a bit freshly to a nun. At the public elementary school she attended, she was considered "picture perfect" one day, as one teacher had offered, and "a real trouble-maker" the next.

All this about Connie I began to understand both psychologically and religiously with her help. She let me know that the rebellious side of Jesus had not escaped her notice, and that in Bernadette of Lourdes and Joan of Arc she had examples of young Catholic women whose virtues and impatient spiritual lives were not at all instantly evident to established Catholic authorities—hence a justification of her own righteous outbursts. Most important, she let me know that her religious life was far more subtle and complex than I had been prepared to admit. She showed me that there was a personal, spiritual life in her that was by no means to be equated with her religious life, or regarded as a mere aspect or an expression of it.

It is this evolving distinction that became a critical issue in my work with Connie. I can still hear and see my child analyst supervisor, Abraham Fineman, and me going over my notes, trying to figure out this bright, troublesome girl who could one minute delight her teachers and others, and the next, drive them to distraction. As Fineman and I went back and forth, commenting on Connie's "ego strengths" and noting her "acting out," we tried to hold on to our mission at the hospital—to "treat" a child who could get moody and sullen enough to worry adults, hence her referral to us.

At one point, I was attempting a fairly ambitious psychoanalytic formulation in a discussion of Connie's "narcissism," when Fineman interrupted to ask me what I then thought was the most irrelevant question imaginable: "Do you think she has her own religious ideas?"

I had no idea. I sat silently. Fineman began explaining his line of reasoning: Here is a bright child who is intensely involved in Catholicism. She is also having enough psychological trouble—truculence at school and in the neighborhood—to warrant visits to us (no small step for a working-class, culturally conservative, Irish Catholic family to permit in the late 1950s, I realize now, although at the time my mind wasn't interested in *that* kind of analysis). Now, I was trying to get her to speak our language—the psychological words and images we find useful, congenial. Instead she brought me lots of religious stories, themes and metaphors. I responded with indifference—my own kind of tactful, ever so modulated "hostility." But she hadn't budged—there we were trying to calculate how to work with her, how to make inroads on a neurosis, how to win her over, really, to a commitment toward therapy. (I had been telling him that Connie often came late, and could be "argumentative" with me over small and not so small details: where she was to sit, the kind of paper she wished to use for the drawings I asked her to do).

Dr. Fineman began to ask questions for both of us to consider. Why not shift tactics? Why not become seriously involved in her religious discussions? Why not let her educate *us* about her church, and also about her? No doubt she would offer some trite remarks, some memorized cliches—but who doesn't, and psychiatry (and medicine) as well as religion can generate

them. She seems to have her own slant on things and this defiant individualism, the source of some of her school troubles, also seems to influence significantly her religious life. She makes it *hers*, rather than a mere rote replication of church truisms and slogans.

To end his exposition, Fineman posed this to me and to himself: "She's an *un*conventionally religious child. There's a spirituality at work in her, and we might explore her spiritual psychology."

What in the world did he mean? "Look," he tried to explain, "we're not getting very far with this girl and her family, and perhaps we need a change of tack." He was not arguing for a therapeutic compromise, or a surrender. Very importantly, he was not being condescending to Connie and her family. Fineman's attitude was quite different. His was a truly humble one I began to realize, and one displayed at a time when such modesty was not the predominant mode of behavior chosen by specialists of our kind.

Decades later I find myself hearing gratefully his exhortation that "we try to learn from this girl," that "we let her teach us her psychology," and in particular, "her spiritual psychology." But I still had no idea what he meant by his use of that last phrase, and I told him so with a polite question—only to hear that he was as perplexed and uncertain as I was, though obviously far more sure of himself than I, hence ready for a gamble.

Soon thereafter, at wit's end, I changed directions in my work with this young patient. For the first time in my short-lived, inevitably anxious and striving career as a hospital resident, learning day to day to practice an exceedingly elusive mix of science and art, I told a patient that I wanted some "advice."

My discussion went something like this: "Connie, it would be a great help to me if you'd let me know how *you* see your life going, and what *you* think we here at the hospital can do to be of help. I know I've said this to you before, but I really do need your advice. I've discussed this with a wise, older doctor who has worked with children for many years and he agrees. He, too, thinks I need your guidance as to how our meetings might be designed to be of better use to you in whatever difficulties you're now experiencing." I gulp on those words now as I write them. Even back then, I'd begun to notice their ingratiating smoothness, if not slipperiness, and their faint air of patronization.

She listened carefully. She was not impressed, I later realized, with yet more of my clinical mannerisms, if not ploys, but she did take note of my reference to my psychoanalytic supervisor. "Oh, you've got someone watching over you, too?" she asked. I scarcely knew what to do with that comment. I managed a self-conscious smile, but she managed something else, an analogy.

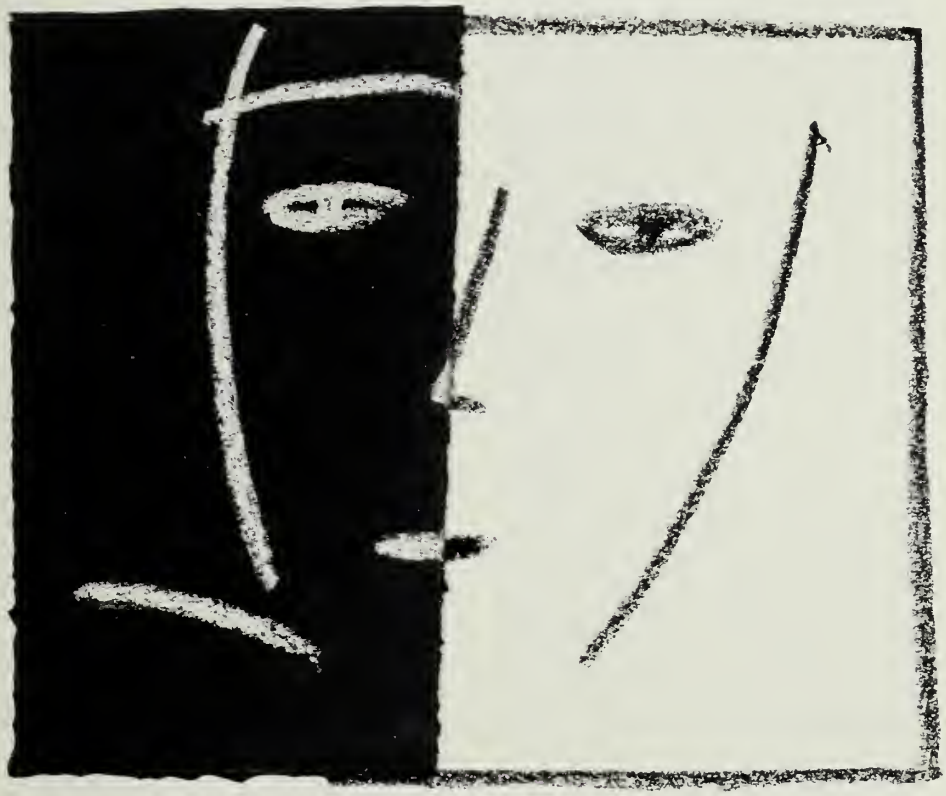
As she saw it, and explained it to me, she had her God, and I had my supervisor. I fell silent. She continued by pointing out to me, in a reassuring way, now satisfying it can be to have "someone looking over you." Even now I can feel her words getting to me—and at a psychological truth. I had been reluctant to pull back from my hitherto relentless psychiatric pursuit. Though she had not intended to allude to that—she had in mind her God and my supervisor as a pair of sorts!—she had managed to make me feel cranky rather than give me pause, or even offer me cause for the enjoyment of an irony.

We got over that hurdle, though, and eventually Connie began telling me a lot about her religious life. She also began to share with me some of her private moments of awe, wonder, alarm and apprehension as she sat in church with her parents, or in Sunday school, and listened to an imposing nun warn, lecture, promise salvation, and threaten the scourges of eternal hell.

After a month or two we were having rather intense conversations and I was, indeed, learning a kind of spiritual psychology, as Fineman (who did have a god-like role in my work) had predicted might happen. I learned how this girl felt as she contemplated heaven (the worry about not being with all her friends rather than the pleasant anticipation of good days ahead) and how she felt about going to hell (the curiosity about the place as well as the dread of it).

I learned about this child's "talks with Jesus." She spoke of her great devotion to Him, but also the anxiety that devotion caused her: "I worry that I'm asking for too much of His time." She was referring to her long spells of prayer, which comforted her, but also got her wondering in directions that made her nearly panic at times. How did *He* feel toward her? Did He have His favorites? If she slipped, made mistakes, did He not only become disappointed, but fall into a rage? (Hadn't the nun described Jesus as "very angry" when He walked into the temple to denounce various hypocrites and wrong-doers toward the end of His life?)

What was Heaven really like? The nun said, "You spend all your time with Jesus." What about hell? The nun said, "The devil gets you and he'll never let go of you." In the privacy of her thoughts, Connie felt terror, but also intrigue at the thought of such lasting possessiveness. Once she asked me, memorably:



"How can He [God] have so many people in His grip, and never let go even once?" I wonder."

These were not concerns easily shared, I realized, and they indicated a trust that had been slow in coming, perhaps because it had not for some time been earned. But those concerns also told me a good deal not only about Connie's spiritual life, but her ordinary, everyday one—family troubles that worked their way into her sense of who Jesus was, and what she might expect of Him, or fear about Him. Not that, thanks to Fineman, I pushed those connections into explicitly avowed "interpretations" on my part.

Essentially, I stayed on the spiritual side of things, as Connie seemed to wish, but I also discussed psychological matters with her. Yes, Jesus could be angry, though He was also forgiving. No, I hadn't the slightest idea how Jesus or the devil ran things in their respective realms, but I doubted they acted as we human beings do—doubted they literally spoke to people or held on to them in some physical way.

She listened carefully, and I knew we were, at those moments, skirting her personal life, her strong bond with her father, her dread at his tantrums. She had turned her father, I knew, into a larger-than-life figure. (I am *not* charging here that the essence of her religious life was that she moved non-stop in her mind from her father to Jesus or the devil.) When she contemplated spiritual questions and larger-than-life spiritual figures, she had difficulties not unlike those she faced at home and at school—as she herself began to recognize. That recognition, I gradually realized, was therapeutic pay-dirt. Her rebelliousness was the result of a fierce attachment to a parent. Her worry that Jesus might overlook her attested to a similar sense of jeopardy and precariousness with respect to important attachments.

None of the above psychological difficulties are all that unique and surprising in a child, but I fear I'd never have been able to recognize them and their consequences had I not learned of them in some detail as Connie talked about her personal way of being a devout Catholic, and also, a musing, speculative one who dared wonder, as theologians and philosophers have, about what it is such words as "heaven" and "hell," "grace" and "damnation" come to mean in human, practical terms. Of course, those words may not mean anything in such terms. The steps from the truths of psychology to those of spirituality may end in a disastrous free-fall—at least for some of us who attempt to make it intellectually. But for Connie, as she explained to me one day, "Heaven is right here, and so is hell, because we're choosing when we smile or we have that bad look on our face."

Instead of seeing Connie's religious and spiritual life as evidence of a disturbed mind, we tried to let that life be our guide and teacher.

At first I tended to be dismissive and cynical as I considered the implications of that assertion, which I'd written down and duly presented to Fineman. So, that's what it all comes to—a big smile or a surly glare! But Fineman was more interested in the first part of Connie's statement—the earthiness of it, the insistence that the far-off, the metaphysical, the utterly mysterious and speculative be tethered to this concrete life in each day's passing. Moreover, he pointed out that a girl scarcely a decade old had given herself a demanding, daily responsibility to choose with each move or gesture where she was going. No wonder she could be so sensitive, prickly and quick on the draw emotionally. The stakes for her were exceedingly high under circumstances many of us would dismiss as trivial and inconsequential.

In the long run, I would learn to be more respectful of Connie's struggles and to see her symptoms as evidence not only of conflict, but of aspirations and yearnings inevitably undercut by particular moments in life, yet also sustained by a persistent vision of what might be won and by what a loss would mean. We doctors kept mentioning this child's vigilant, even overbearing conscience as a source of so much that went wrong for her. She had tethered this "agency" of the mind, the superego, to an enormous task, the success or failure of which she had her own manner of pondering through prayer, and through what she called "stargazing," meaning: "I look to see whether it's God's eyes that are looking at me or the devil's."

For Fineman, all of this was not only psychopathology, pure if not so simple. "Look," he once told me, "she's trying very hard to control that tyrannical judge inside her, and she's enlisted not only parts of her own mind but a religion, and her version of a religion—fairly ingenious. I'm not sure the priests and nuns in her neighborhood would agree with the way she talks about heaven and hell, but she's breathed life into those ideas during the course of her own daily life."

We were getting at least some of our bearings with respect to a child's spiritual psychology. As I think back to the talks I had with Fineman about Connie, and with Connie about herself, and as I look at my old clinical notes, I realize that Fineman and I were attempting some second thoughts on Freud's *Future of an Illusion*, and by implication, an aspect of 20th century ideological orthodoxy, much like the case Rizzuto makes in her book. Instead of seeing Connie's religious and spiritual life as evidence of a disturbed mind, we tried to let that life be our guide and teacher. We also began to understand how that life had kept a child together psychologically.

"I see Jesus smiling, when everyone else is looking real mean, even me," this girl had told me many years ago. As I read *The Birth of the Living God* in the early 1980s, my mind went back to that comment of Connie's, because Fineman, long a Boston colleague of Rizzuto's, had anticipated her sense of things when he wrote this in a supervisor's summary: "This girl has begun to settle down in treatment. Her use of her Catholic faith has been both a stumbling block and an opportunity for her doctor and me. We have stopped trying to take on her faith clinically! She has built her own version of that faith, and we have let her tell us all about it, and learned more about her. For her, God is quite alive; He's a big part of her life. We're hoping He'll be of further help to her—and to us too."

I have always cherished those words. They gave a young doctor some encouragement toward a less polemical or confrontational relationship between a child's spirituality and her doctor's therapeutic energy. □

Robert Coles, MD is a professor of psychiatry and medical humanities at HMS. He is the author of the Children of Crisis *series (in five volumes),* The Moral Life of Children *and* The Political Life of Children. *In 1973 he won a Pulitzer Prize for volumes two and three of* Children of Crisis. *His book,* The Spiritual Life of Children *is soon to be published by Houghton Mifflin.*

THE CLERGY AS COLLEAGUE

Ministering to the Sick

by Edward D. Churchill

This dinner is indeed a happy and unique event, bringing together as it has, representatives of the Church and of the healing arts. Our functions as pastors and physicians are now separate ones, but in the long course of history, as we all know, there have been many times when our professions were unified. Perhaps it would have enhanced the historical flavor of the dinner if the committee had arranged for a performance by our ancient and mutual colleague, the magician. His role was once close to yours and to mine, and I shall have occasion to refer to him from time to time. But as the program directs, we must proceed with our conversation on our contemporary professional levels. In doing so it seems to me vitally important that we should speak openly and frankly.

There are many subjects of joint concern of which we might speak because they lie within the broad areas of morals and medicine—birth control, euthanasia, sterilization, artificial insemination, abortion, and others that are even closer to the quick. While it would be of interest to discuss and define our positions and postures on these complex topics, I feel that we would be expressing what Galbraith has called conventional wisdom, and that it will be the onward march of events rather than our positions pro or con that will in the end be decisive in their resolution.

A more tangible focal point on which the concerns of pastor and physician converge is the individual person. A pastor ministers to an individual; a doctor treats a person. If our colleague the sociologist were addressing us, he might explain that from society's point of view the individuals with whom we are chiefly concerned are potential or actual *deviants*—persons unable to conform with certain social expectations. In this sense the pastor and the physician, as well as the lawyer and social worker, are in fact agents of social control. (As a footnote, this thought and those that follow in the next few paragraphs have been developed by Talcott Parsons, professor of sociology in the Department of Social Relations, Harvard University. The necessary abridgement of his exposition blurs the precise meaning of many of his words.)

When illness is examined as a deviance or disturbance of the capacity of the individual to perform a normally expected task, it can be recognized that certain features surround the role of the sick person.

- The incapacity is interpreted as beyond his powers to overcome by merely the desire to recover. He is not held "responsible" for his incapacity and in most instances it is accepted that some type of therapy is required above and beyond the most ardent desire to recover.
- He is exempted from normal task obligations during sickness.
- The status of a sick person thus becomes a legitimate one in the eyes of society but with the important corollary that it is *undesirable* and the person has an obligation to try to "get well."
- There is an obligation for the sick person to seek competent help and for well members of society to cooperate in attempts to help him get well.

This analysis frames *motivation* as a central theme of illness; not merely the motivation of society to extend the helping hand but motivation on the part of the sick man to grasp it. The old medieval houses of charity that went by the names of hospitals were mere hostels for derelict humanity. Early in the 18th century came the voluntary hospital designated for *curable* poor people. This philanthropy pointed the way toward a socially constructive effort, not mere almsgiving.

In assuming the role of agents of social control, physicians have taken

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DOCTOR-CLERGY DINNER

It was formerly the conservative opinion that clergymen knew practically everything under the sun. Since those ancient days when scholarly persons could acquire a fair share of human knowledge, science has made nearly impossible the mastery of more than a tiny fraction of the available information. Today, compartmentalization of knowledge has reached such a point that the care of the patient may often be most effectively undertaken by a variety of specialists — physicians and surgeons for ills of the body, psychiatrists for sickness of the mind, and ministers for diseases of the soul. Such a division of skills is artificial, however, for the aim of each specialist is to restore the sick person to a healthy wholeness, and the fundamental unity of body and spirit is underlined by the fact that the three words symbolic of that unity, "health, holiness, and wholeness," are derived from the same etymologic root.

To re-emphasize this unity and to enlist each other's aid in promoting more effective care for the sick and disabled, members of the clergy and of the healing arts met for dinner at the Harvard Club of Boston on the evening of April 8 under the sponsorship of the Boston Council of Churches and the Department of Pastoral Services of the Massachusetts Council of Churches. Dr. Edward D. Churchill, John Homans Professor of Surgery at the Harvard Medical School, and surgical chief of the Massachusetts General Hospital, represented the medical profession and delineated the powerful role that the pastor may play in providing emotional sustenance and spiritual comfort to the ill and the dying. Dr. Samuel Miller, pastor of the Old Cambridge Baptist Church and newly appointed dean of the Harvard Divinity School, represented the clergy and underscored the physician's moral responsibility for loving man and mankind as well as the science of his craft. He pointed out that man is not simply a biologic organism consisting only of a sick heart or a diseased kidney but that the needs of the human being must also include spiritual succor. The gathering was a refreshing reaffirmation on the part of physician and pastor of the necessity of ministering as fully as possible to the totality of human needs; it provided, indeed, a flash back to the days when the two professions were often combined in one person.

In a lighter vein Reverend Paul Sturges pointed out that because the doctor and minister serve the same ultimate high purpose, they are often mistaken for one another. He told the story of an old lady with abdominal pain who was examined by a physician called by the patient's daughter. "My, he was a fine minister," said the lady, referring erroneously to the doctor. After the mistaken identity was corrected by the daughter, the old lady mused, "Come to think of it, I thought he was rather familiar for a minister."

up a responsibility, the weight of which has increased rapidly in the past half century and will increase even more rapidly in the coming decades. The increase in responsibility parallels the ability of the physician to alter the natural course of illness, or in lay terms "to cure disease." The tools provided by science are sharp and may be painful; their use is attended by danger, yet to fail to utilize them may be disastrous.

In studying and commenting on the actions and behavior of today's physicians, one must keep in mind their changing role as agents of social control. I have given you sociologist Talcott Parsons' analysis of illness as a social deviance and the features that identify illness as an undesirable state in which the patient has an obligation to "try to get well." How vigorously the sick man may resent this obligation is familiar to us all. Charles Lamb described him well. It may be expected that a sick man will be immersed in a "preposterous dream of self-absorption."

Can the physician surrender his responsibility in social control and give his patient what a sick man really wants, if that want is not to be stirred out of his selfish dream? An experienced physician knows full well how his patient may try to avoid taking up the responsibilities of life again despite conventional and vigorous protestations to the contrary.

There is little wonder that the regimen of self-discipline prescribed by the contemporary physician and the calculated risk and discomfort advised by the surgeon are resented by many emotionally insecure people today. Even more disturbing to some is the frank statement that no adequate cause can be found for the symptom that has been cherished and magnified for weeks as a device for avoiding some distasteful task. There is little wonder that nostalgic yearnings are heard for the legendary general practitioner skilled in brinkmanship and in quieting the fear of the unknown with his battery of pills and placebos.

Nostalgia for the old-time general practitioner is to medicine what nostalgia for the old-time religion is to the modern church—both are skeletons in our closets that are better forgotten.

One of the obligations that has made illness legitimate is the expectation that the sick man should seek competent help. His Eminence Richard Cardinal Cushing dealt with loose thinking and nonsense about old-time practitioners and giving sick folk what they want in a recent address: "When we are sick, we need a skilled doctor, not necessarily one who is blessed with piety. The ideal would be a good man and competent physician."

Turning from the area of illness to that of *mortality*, it is said that deviance is measured not with respect to the individual's *capacities* as it is in the sense of health, but with respect to his commitment to the *values* of his society. It is this area that has become associated with religion, and it is up to the individual to decide whether he is "for or against" certain values. As a society places more or less emphasis on values, the role of the pastor as an agent of social control will vary.

The primitive social control exerted by the priest-magician has long been divided into differentiated roles of pastor and physician.

Again, certain values long held as absolute are being subjected to quantification. This brings a shading or relativity in values so that they appear in shades of gray, not in the white that we can be "for" or the black that we can be "against."

"The relief of human suffering is held as a sacred duty among adherents to the Christian faith," is a noble statement. But when a contemporary society must decide how many dollars of the annual income will be spent in hospital construction and how many dollars will be used to build submarines for defense, one may ask, "How sacred?" Is the next step, as someone has suggested, to have a file labeled "Top Sacred"?

At this point we can see that the primitive social control exerted by the priest-magician has long been divided into differentiated roles of pastor and physician and that we each face our problems. In a sense we are each specialists and our roles in societies are far from simple ones. And at this point my Presbyterian upbringing with its echoes of Pauline exhortations would permit me to close without further ado, standing on that sound description for success in cooperative specialist undertakings given to the Romans in Chapter 12.

But to a surgeon such a course would be neither frank nor honest. Arouse a surgeon's curiosity and put a probe in his hand and he can be as searching and sometimes as painful as a psychiatrist with an interview. To stop here with high sounding words about the pastor specialist ministering to the spiritual needs of the patient while the physician specialist heals his body would not maintain the professional level of this meeting. The need for such platitudes did not bring pastors and physicians together tonight.

What did? I venture the following answer.

Between the two specialties pictured by the physician dealing with physical illness and the pastor dealing with spiritual deviance, there has arisen a sea of restless activities that go by various names—behavioral science, mental health, dynamic psychiatry. These are sufficient clues to indicate the direction in which I am looking, although not one of these names is coextensive with the area concerned.

There is no use pretending to ignore these activities—even though we are not as yet certain whether they may represent a snark or a boojum. To show how this is affecting our respective positions, I shall first consider the Church and quote from Granger Westberg, associate professor of religion and health, University of Chicago.

"The Church has been both irritated and intrigued by the developments in the field of dynamic psychiatry. It was irritated particularly in the 1930s and '40s because some of the representatives of this new field made such extravagant claims for it and gave the impression that all their findings about the nature of man were unknown prior to Freud. But the Church was intrigued by psychiatry's almost uncanny ability to get behind the facade of man to the real person inside."

I have no knowledge about the extent to which the Church is "intrigued" by psychiatry and must leave it to you as pastors to explain the meaning of the following paragraph from a review in the April 11, 1959 issue of the *Saturday Review*.

"Nowadays when clergymen of all denominations have found that psychoanalysis can be put to various uses, including the propagation of their faith, and when psychoanalysts in turn are anxious to prove that psychoanalysis is

perfectly compatible with religious orthodoxy, it is interesting to see Fromm clearly demonstrating Freud's atheism. Freud saw psychoanalysis as a method by which human beings can be freed from domination by their instincts and illusions. Religion to him, was one such illusion."

I can perhaps claim somewhat more competence to judge the significance of criticisms being directed toward doctors and medicine. Earl L. Koos, PhD, professor of social welfare, Florida State University, describes the results of what he calls public opinion about physicians in a city of 350,000: "63 percent of the replies indicated that modern, technic-centered medical practice lacked the human warmth of the old-time general practitioner (who possibly knew less about medicine but more about his patients). It is suggested that the physician alter his technics and attitudes—in so far as is humanly possible—in order to provide what the people feel they need and *want* from medical care."

It is not only the way in which physicians behave that is under fire. Some rather surprising statements are made that are hard to believe are merely intended to be funny. *Medical Sociology: Theory, Scope, and Method* by Norman G. Hawkins, B. Ed., PhD, published in 1959 by one of our most reputable publishing firms, contains such profound contributions as these:

"Any social scientist who wishes to discuss tuberculosis intelligently must first disabuse himself of the notion that infection is the predominant aspect of the disease."

"Demography, comparative cultural studies, research in family and occupational experience and physiological evidence, all indicate strongly that the two diseases (schizophrenia and tuberculosis) are associated with dissolution of the supportive cultural matrix and consequent severe or prolonged stress."

And certainly the following from another source will interest anyone at this dinner who has surreptitiously slipped an antiacid tablet into his mouth as he felt a rising tide of gastric unrest provoked by a cut of roast beef: "The beneficial effect of milk on stomach ulcer evidences lack of emotional satisfaction as the cause of the ulcer."

Is it possible that criticisms both of medicine and of the Church such as I have quoted, and arising from this turbulent area that stretches between us, have brought us together to compare notes this evening? If so, it is not likely that a surgeon will say that he expects his minister to be intrigued with psychoanalysis and forsake his role as an agent of social control in an effort to become a behavioral scientist. Nor is it likely that any minister will inform the surgeon that he expects him to be an old-time general practitioner who knows a great deal about his patient but is a bit hazy with respect to anatomy. If we need reassurance in our respective roles, it can be found by heeding Paul's exhortation to the Ephesians (Chapter IV): "I beseech you that ye walk worthy of the vocation wherewith ye are called."

I beseech you to walk carefully in the no man's land that lies between scientific medicine and religion.

I am not competent to explore the thought expressed by Westberg, that the coming of dynamic psychiatry jolted many thoughtful pastors into an examination of their own teaching and preaching, and let them try to relate their activities more to life. This we can agree is desirable. I am very certain that many physicians and many more surgeons can become better doctors by more warmth of human kindness. Neither pastor nor physician can compromise his stern duties as an agent of social control. Our mass media bear ample and far from silent witness to the policy of giving people what someone thinks they want.

So far as medicine and surgery are concerned, I believe that the power of the art to deal effectively with physical or somatic illness has paralleled its departure from the old religio-magic stem and its newfound adherence to the methods of science. I also believe that its ultimate power to deal with mental illness will be found in the same source. I do not look upon science as a dictionary of cold facts or as a textbook of neutral ethical values. Time does not permit discussing the ethic that lies in the method of science—the independence of mind, the freedom of dissent and the tolerance of the views of others. A discussion of these necessities to human dignity has been presented by Brownowski in his *Science and Human Values*. Some of these same ethics have guided the Church during many stormy periods of history.

If it is true that pastors are engaged in rethinking and seeking new ways to make the Christian faith more relevant to contemporary life, I beseech you to walk carefully in the no man's land that lies between scientific medicine and religion. There you will meet, it is true, some good physicians with high scientific integrity. There is even reason to hope that the psychodynamic aspects of certain psychosomatic studies are becoming vested with the precision and critique that clinical investigation of the biochemical and physiological aspects of illness has long demanded. There you will encounter our old comrade, the magician, and his friends the necromancer and the charlatan.

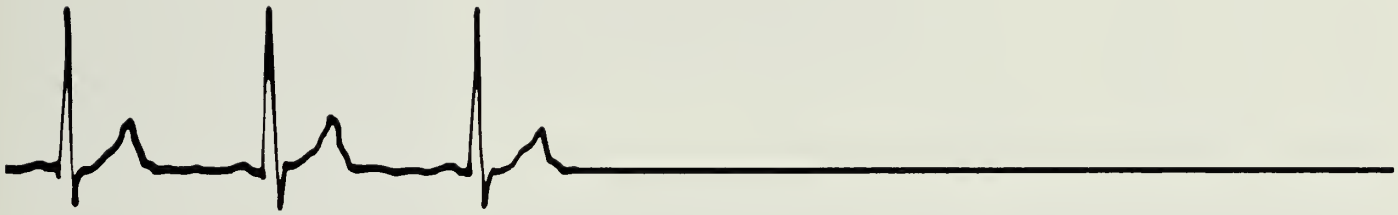
There lie the gates to the old dead end street of faith healing and therapy by magico-religious means. These are by no means ineffective under certain conditions, but these conditions are oftentimes ill-defined and unpredictable. Compared with the development of medicine and surgery in the modern world, they are unreliable and of fleeting value.

Contact with scientific medicine does not demand a journey through this twilight zone. Physicians and surgeons at the Massachusetts General Hospital cherish and respect the helpful and dignified comradeship of a long succession of chaplains. We recall with pride the constructive association that sprang up between the late Dean Sperry and our now *emeritus* professor of medicine, Dr. James Howard Means.

What, then, do I expect of a minister as a colleague? That he walk worthy of the vocation wherewith he is called. If this permits him to share with me the ethic in science that insists on independence of mind, freedom of dissent and tolerance of the views of others, then so much the better. In this way I believe we can best separately and jointly contribute to the spiritual and physical dignity of mankind. □

Edward D. Churchill '20 (1895-1972) was John Homans Professor of Surgery and chief of Surgical Services at MGH.

Originally presented at the Greater Boston Doctor Clergy Dinner, April 8, 1959 under the title "What a Physician Expects of a Minister as a Colleague." Printed with permission from Mary B. Churchill.



Otherworldly Journeys

NEAR DEATH AND BACK

by Raymond Moody Jr.

David Hume, the great English empiricist philosopher, penned a famous essay that is widely regarded as a devastating refutation of the possibility of miracles. He states that it arouses his suspicions that in his day there was a marked tendency for such occurrences—though they were widely reported in texts from ancient times—to be reported primarily from distant and exotic lands with which communication was unreliable and difficult. Hume might be more than a little surprised to learn that in our contemporary world, one of the most common sites of purported miraculous events is the emergency and operating rooms of hospitals, and that the persons reporting them are those who have been rescued from death by the use of sophisticated devices representing the pinnacle of medical technology.

During the past two decades, a sizable number of clinical investigators, both in the United States and abroad, have established that a significant proportion of persons who are revived following close calls with death describe a remarkable spiritual experience which dramatically alters the subsequent course of their lives. Furthermore, it appears that these experiences conform to a common pattern—that on the whole they are quite similar from case to case, independent even of such factors as the patient's age, sex, religious, cultural or educational background, or socio-economic status.

Such individuals frequently relate that at the point at which they undergo cardiac arrest, far from losing consciousness, they experience a heighten-

ing of it. They float out of their bodies, they say, and watch the resuscitation procedure from above, from a point just below the ceiling. From this vantage point they clearly see their own physical bodies on the table below. They soon realize that the doctors and nurses are unable either to see or hear them. At this point they find themselves moving through a passageway toward an incredibly loving light.

As they emerge into this light, they find themselves in the presence of departed friends and relatives, who seem to be there to meet them and help them in their transition into this new realm. They describe seeing the whole of their lives displayed around them in a full color, three-dimensional panorama, instantaneously as it were, and they are overwhelmed with a sense of the central importance of love for self and others as the purpose or meaning of existence.

It seems clear to me, after investigating near-death experiences, that these persons are no longer fearful of death, are focused on the importance of love and concern for others, live in the present moment, and become calmer, happier people.

At some point they must return, and almost all relate that they felt a conscious reluctance to do so, so fulfilling was the ecstasy they felt in this state. Some say they were given a choice to stay or to return to the life they had been leading. They chose to return, they say, not for themselves, but for the children they still had to raise. Others report that they were told they had to come back. Many of these patients express anger toward the physicians who revived them.

That, simply stated, is the type of account patients give us of their otherworldly journeys. What is of more concern to those of us who have not had such a vision, however, is what happens to these individuals when they return. It seems clear to me, after 25 years of investigating near-death experiences, that these persons on the whole are affected in an overwhelmingly positive way by what happened to them. They are no longer fearful of death, they are focused on the importance of love and concern for others, they live in the present moment, and they become calmer, happier people.

A sizable body of research suggests that such experiences are quite common. Kenneth Ring, professor of psychology at the University of Connecticut, has reported that well over a third of the patients he surveyed at local hospitals who had survived very critical illnesses described experiences that conform, in an obvious way, to the pattern summarized above. Similarly, Michael Sabom, a cardiologist in Atlanta, found that over 40 percent of patients who had been "unconscious and near death" related near-death experiences.

Since the number of resuscitations performed each year is so large, it is not surprising that the number of persons who have had such experiences is vast. George Gallup became interested in this subject in the early 1980s, and devoted his polling organization to determining how prevalent the near-death experience is. He was astounded to find that approximately eight million adult Americans have had such an experience.

This phenomenon is not confined to adults, however. Melvin Morse, a pediatrician in Seattle, has interviewed approximately 50 children who have had these experiences and has found that the accounts given by children are identical to those heard from adults.

Other physicians have studied near-death experiences in specific populations. For instance, Bruce Greyson, professor of psychiatry at the Medical Center of the University of Connecticut, has studied the near-death experiences of persons who have survived suicide attempts. He has uncovered dramatic evidence that suggests that the near-death experience appears to preclude further such attempts, while patients under similar circumstances who had no near-death experiences continue, as a group, to have a high rate of subsequent suicide attempts.

Physicians in Britain, West Germany, France, Holland, Norway, Sweden and Italy have confirmed the occurrence of near-death experiences among their own patients and have verified that the pattern reported in the United States clearly applies to their own cases as well.

Such research should make it plain

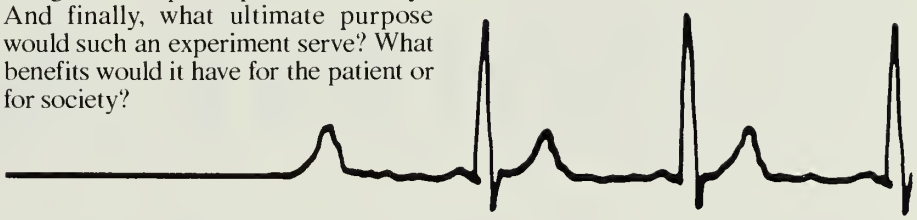
that the near-death experience, whatever one may believe about its etiology, is an important clinical phenomenon. Obviously, we in the medical community are not in a position to rule on the ontological status or the theological ramifications of such accounts. Our role must be confined to that of helping and supporting such patients as they attempt to deal with what has happened to them, and to help them put their experience into perspective.

A consensus as to what can be done for these persons appears to have emerged among the clinicians who regularly work with patients who have had near-death experiences. We suggest that such patients be given ample opportunity to tell their story and to ventilate their feelings in a sympathetic and supportive environment. Secondly, the patient should be reassured that he or she is not alone—that in fact many persons who have returned from the threshold of death have related similar experiences. Also, these patients' families must clearly be told that the episode in no way implies that their relative is mentally ill, and they also need to be prepared for the possibility that the patient may undergo significant personality changes in the wake of his or her experience.

The question has arisen as to whether the knowledge that has accumulated on near-death experiences might be helpful in counseling terminally ill patients as they face the prospect of death. I am highly dubious about this. From my own experience in dealing with the terminally ill, I am convinced that routinely bringing this information to the attention of persons stricken with grave and incurable illness would be a disservice to many. In my opinion, each person needs to face death in his or her own unique fashion. However, in cases in which this request comes specifically from the patients, I see no harm in informing them of the nature and scope of the research that has been done, as long as this is done in a non-intrusive and neutral way.

Finally, let me say that my colleagues and I concur that it is pointless, even counterproductive, to call a patient's near-death experience an hallucination. In the first place, this only alienates the patient—from his or her perspective, this experience is at once life-changing and self-certifying. Secondly, it is difficult to conceive of any method to test an hypothesis concerning the ultimate causation of such experiences. The resuscitation procedure itself is, by definition, conducted in a clinical environment rather than an experimental one. The purpose of this procedure is and, ought *only* to be, to prevent the patient from dying. Any conceivable experiment equipment which might be introduced into this already crowded situation would run the risk of interfering with the treatment.

A subsequent issue is how would one secure informed consent about the experimental procedure in the first place? Who among us can tell in advance which patients might have a cardiac arrest, and even if we could, what would be the psychological effect on them of being asked to participate in the study? And finally, what ultimate purpose would such an experiment serve? What benefits would it have for the patient or for society?



We who have listened to literally thousands of these gripping, first-person accounts have been profoundly affected. I think, however, that we have learned a lot more about living than we have about dying.

Such questions seem ultimately unanswerable and even pointless. I think that medicine should confine itself to attempting to clarify the clinical issues surrounding near-death experiences. This is not to say, however, that physicians who deal regularly with this phenomenon should, or even can, remain completely neutral and unmoved. We who have listened to, among us, literally thousands of these gripping, first-person accounts have been profoundly affected by what we have heard. I think, however, that we have learned a lot more about living than we have about dying. □

Raymond Moody Jr., MD received his PhD from the University of Virginia and his MD from the Medical College of Georgia. He is the author of Life After Life, Reflections on Life After Life *and* The Light Beyond.

STONE AGE ANTIDOTE

Prescriptions from the Past

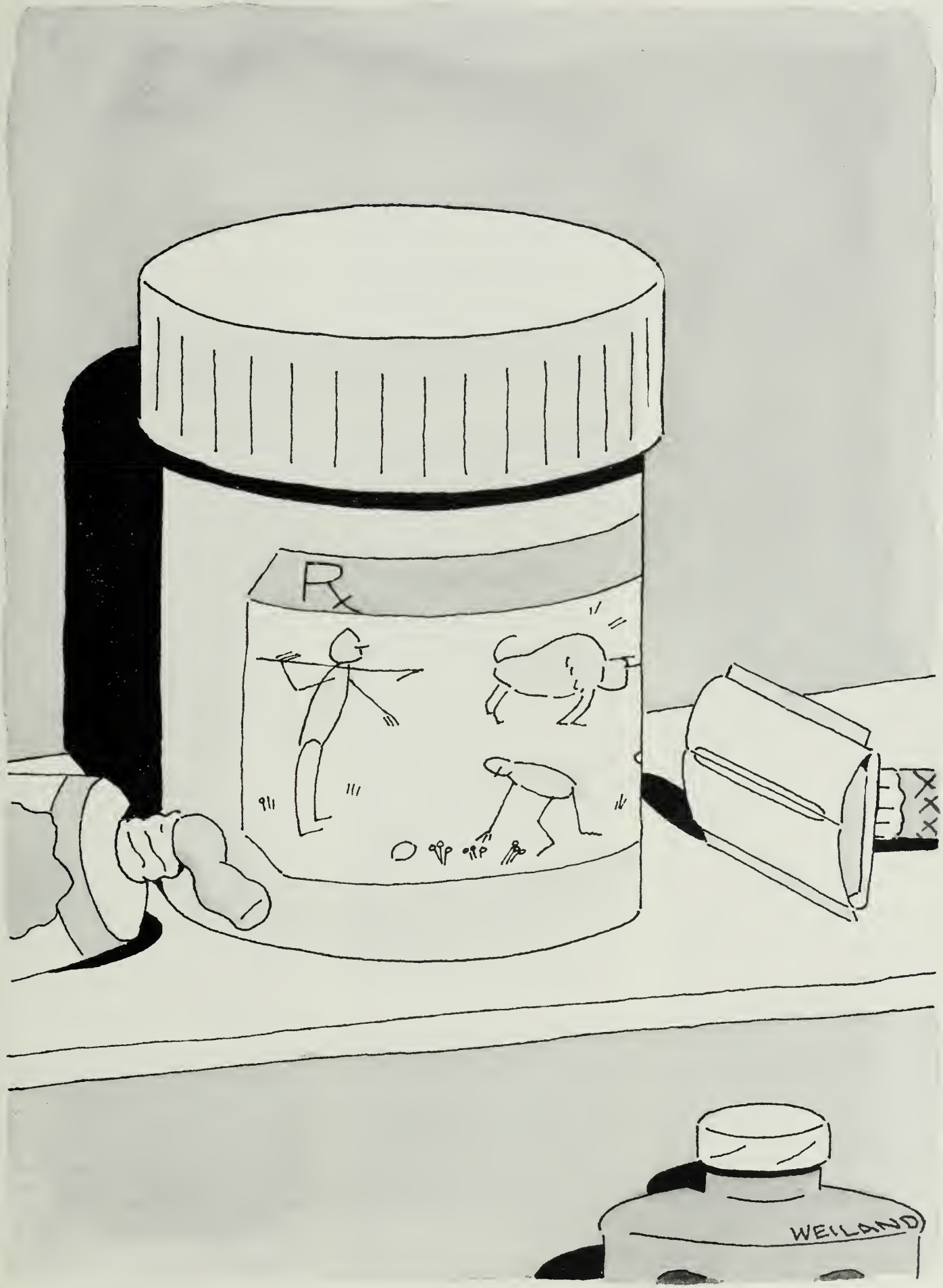
by S. Boyd Eaton

John A.J. Gowletts' *Ascent to Civilization* takes its title from the age-old belief that as humans have progressed through time, they have also improved culturally, physically and morally. While skeptics might wonder how napalm, totalitarian dictatorships, acid rain, random terrorism, depletion of the ozone layer, nuclear warfare and the Holocaust could possibly represent an "ascent," most of us continue to believe that people living in the 20th century are better off than those who lived in the Stone Age. Ernest Hooton's *Up from the Ape*, Jacob Bronowski's *The Ascent of Man*, and Thomas Hobbes' oft-cited aphorism that the lives of primitive humans were "nasty, brutish, and short," exemplify a prejudice that most of us hold.

Accordingly, the idea that a "prescription" from the Stone Age (the "Paleolithic" in paleoanthropological parlance) might have relevance for humans living today seems paradoxical and counter-intuitive. Nevertheless, *The Paleolithic Prescription* (Harper & Row, 1988) bases its advice and recommendations on an analysis of the living conditions—nutrition, exercise, patterns and other lifestyle factors—which seem most likely to have existed during the late Stone Age, the period from 40,000 to 10,000 years ago when anatomically modern humans first became widely dispersed over the earth's surface. The people of that time were genetically almost identical to us living today. It can be argued that the genes we have inherited from these ultra-remote ancestors were originally selected through evolution for the lives *they* led, not for the conditions *we* experience in affluent, industrialized Western nations such as the United States.

The idea that our lives have deviated from what nature intended is an old one, advanced before the concepts of evolution and genetic inheritance had been formulated. For example, in 1754 philosopher Jean-Jacques Rousseau wrote that in a "state of nature" humans were strong of limb, fleet of foot, and clear of eye. ("Discourse on the Origin of Social Inequality," in *The Social Contract and Discourses*, Paris, 1755.) He

ILLUSTRATIONS BY GARISON WEILAND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contrasted this natural condition of health with the proliferating diseases engendered in civilization by wealth and sedentary occupations: "The greater part of our ills are of our own making and we might have avoided them, nearly all, by adhering to that simple . . . manner of life which nature prescribed. When we think of the savages . . . and reflect that they are troubled with hardly any disorders save wounds and old age, we are tempted to believe that in following history of civil society we shall be telling that of human sickness."

Of course, it's one thing to maintain philosophically that we can learn from the past, to argue that our bodies and our lives are out of step with each other, and to advocate that we try to recapture essential elements from our ancestral lifestyle. Providing scientific support for such contentions, however, is something else altogether. Or, as a *New England Journal of Medicine* review of the *Paleolithic Prescription*, by Fredrick J. Stare (1989;320:1567-8), succinctly puts it, "What is the evidence?"

For many years, our informal group of Atlanta-based, Emory-affiliated but Harvard-bred physicians and anthropologists has been investigating these propositions and accumulating "evidence." We have reviewed the subject from many different vantage points: through the eyes of exercise physiologists, nutritionists, epidemiologists, historians, archaeologists, evolutionary theorists, geneticists, primatologists, physical anthropologists, human paleontologists and specialists in preventive medicine. Each of these disciplines has contributed to the emerging synthesis and, collectively, the support they provide for the basic argument is becoming impressive.

The *NEJM* review asks: "In what way were our ancestors healthier than we are today?" Human paleontology offers some direct, if incomplete, answers to that question: our ancestors didn't develop osteoporosis, their prevalence of dental caries was far less, and they were physically stronger than we are now. And if we accept the premise that recently studied hunters and gatherers are acceptable, though imperfect, surrogates for Stone Agers (whose living patterns were similar), then additional answers emerge from the work of physical anthropologists. People such as the !Kung San Bushmen of Botswanna, the Australian Aborigines, and the Hadza of Tanzania have no obesity, low (generally below 150 mg/dl) levels of serum cholesterol, little or no hypertension, high VO_2 max (reflecting their impressive physical endurance) and little loss of hearing with increasing age. Near-traditional Alaskan Eskimos studied in the 1950s had 1/35 the diabetes found in their acculturated children and grandchildren of the 1980s (and only 1/80 the diabetes prevalent among Americans generally today!).

Epidemiological investigations offer further insight. The Japanese and Chinese—whose traditional diets provide a level of fat intake paralleling what we estimate Stone Agers obtained—have relatively little coronary heart disease and a lower prevalence of malignancies such as breast and colon cancer, which are common in the United States where our fat intake is twice as great.

Our bodies and our health records show that we have become the soft underbelly of humanity.

Estimates of what constituted the late Paleolithic diet and lifestyle have not been plucked randomly out of the air. Our ancestors ate red meat in great quantities. Their living sites were located near game migration routes, and excavations at such sites have revealed the bony remains of game animals in remarkable numbers. Cave wall paintings reflect the importance of wild game in the Stone Age economy.

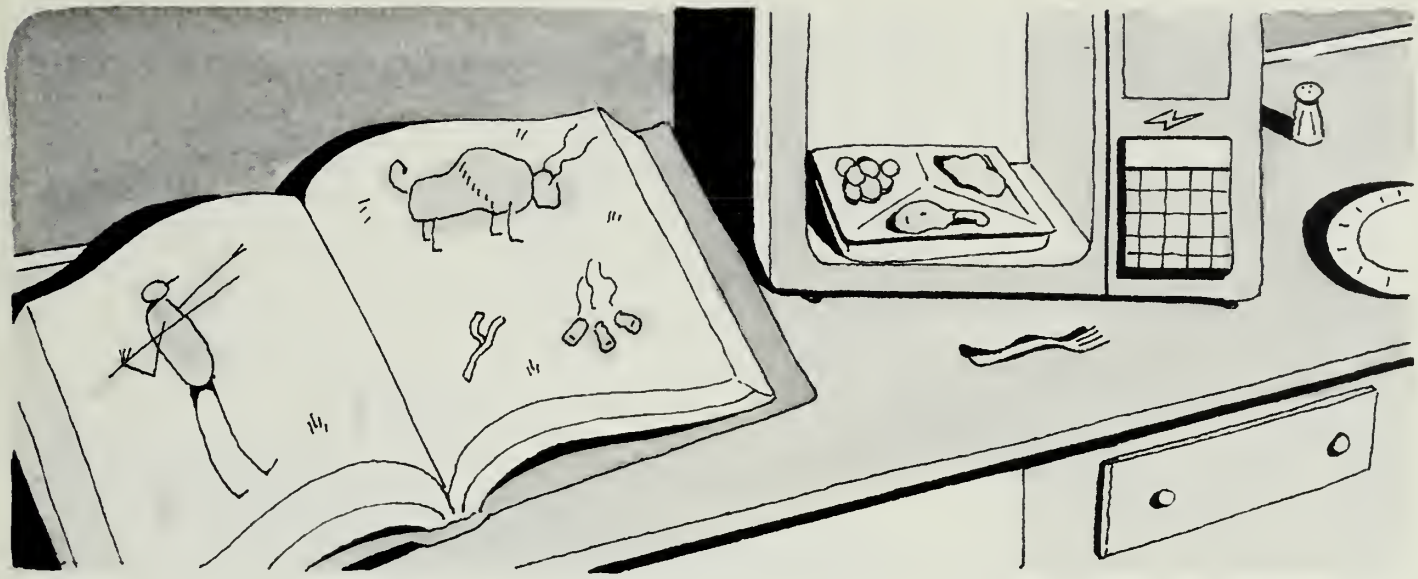
Anthropological studies of contemporary (as in the last 50 years) hunter-gatherer groups shed additional light. The range of their subsistence patterns is broad, but centers on a mean, median and modal intake of 35 percent from animal sources and 65 percent from plants. By using this subsistence model together with proximate analyses of 150 uncultivated plant foods and 40 wild game species consumed by recent hunter-gatherers, it has been possible to construct a rationally defensible estimate of Paleolithic nutrition.

Certainly there was no universal Stone Age diet just as there is no ubiquitous Atomic Age diet. Still, on average, our ancestors ate considerably more protein, about half as much fat, five to ten times as much dietary fiber, twice as much calcium, more vitamins (including four to five times the vitamin C—a finding welcomed by Linus Pauling), and much less sodium. These hypothetical projections have been supported by anthropological studies, conducted in 1948, of Australian Aborigines in the Arnhem Land, who consumed 335 percent the protein, 265 percent the calcium and 235 percent the ascorbic acid now recommended by American nutritionists. For the Venezuelan Yanomamo before acculturation, sodium intake was about one-tenth that of today's average Americans. Archaeological evaluation of Archaic Amerindian coprolites (fossilized excrement) indicates that their fiber intake was approximately ten times ours today. Strontium-calcium ratios in the bony remains of humans living in the Near East just before and during the changeover from hunting and gathering to agriculture indicate that the hunters consumed considerably more meat than did the farmers.

Non-human primates have a proportional intake of vitamins and minerals greatly exceeding current recommendations for humans. Their consumption of fat and sodium is limited, whereas they ingest large quantities of protein and dietary fiber. For example, primatological studies of mountain gorillas in Rwanda show that these animals consume three to six grams of protein per kilogram body weight, whereas American nutritionists currently advocate one gram per kilogram body weight. Incidentally, the studies of biochemically oriented geneticists now indicate that humans and gorillas differ genetically by less than 2 percent!

The specific foods our ancestors ate varied enormously, with differences in location and time periods. With limited exceptions, such as nuts and honey, these foods were nutrient-dense and energy-poor. Take venison, as an example of wild game, and compare it with a choice beefsteak from today's supermarket. A pound of beef has two and one-half times the calories, but substantially less protein than does a pound of venison. The beef also has five to six times the fat.

Similarly, uncultivated vegetables generally have more protein and micronutrients than do those grown commercially. The real difference emerges, however, when the nutritional qualities of wild fruits and vegetables are contrasted with the processed food items that form so much of our plant food intake nowadays. Ounce for ounce, the former nearly always provides far less sodium, fat, simple sugar, and energy than do the artificially manufactured offerings on our grocery store shelves.



It's likely that our ancestors consumed one-third to one-half more food, in terms of bulk, to get the same caloric intake. For obesity, the implications of this one simple difference are far-reaching. Again, conjecture can be backed by scientific observation. All sorts of peoples—from American natives to Eskimos, Amerindians and Pacific Islanders have become fat upon acculturation. The Australian Aborigines, who in 1948 obtained three times the protein from their diets than is now advised, got only 90 percent the caloric load presently considered appropriate. But after acculturation, just 25 years later, they typically ate store-bought food, which provides 20 percent more calories than desirable, but only 80 percent the recommended amount of protein.

The surgeon general has indicted cigarette smoking as the single most important preventable cause of illness and death in 20th century America. Tobacco occurs naturally only in the Americas, and because our ancestors evolved in the Old World, humans had no contact with this source of illness until the Paleoindians entered the temperate regions of the western hemisphere. Africans, Asians and Europeans were protected from contact until after the voyages of discovery a mere 500 years ago. Even so, chewing tobacco, snuff and pipes—against which James I railed in vain—produced less effect by far than do today's cigarettes. Western Europeans learned of cigarettes only in the 1850s when French and British officers adopted them after observing the habits of their Turkish allies during the Crimean War.

Cigarettes greatly heightened the effects of tobacco use by way of three major deleterious effects: they increased per capita tobacco consumption among men tenfold, they made smoking socially acceptable for women (especially following World War I), and they facilitated inhalation of tobacco smoke. As documented by the current epidemic of lung cancer—which as recently as 1912 was considered "among the rarest forms of disease" (I. Adler, *Primary Malignant Growths of the Lungs and Bronchi*, New York: Longman's Green and Co., 1912:3)—tobacco-related disorders are largely a phenomenon of the 20th century.

Honey and wild fruits with sufficient sugar content can undergo spontaneous fermentation, so it's quite possible that in some locations our ancestors may have consumed alcohol. However, none of the hunter-gatherer groups studied in this century has been able to manufacture alcoholic beverages, and therefore it's almost inconceivable that Stone Age humans could have regularly obtained 7 to 10 percent of their calories in the form of alcohol, as Americans have done recently. It's far more likely that the typical Stone Ager "never touched the stuff."

There's considerable current controversy about the value of exercise for people living in industrialized nations. In the Spring 1989 *Harvard Medical Alumni Bulletin*, Arthur J. Barsky's article "Fitness Mania: The Body as Our Temple" serves as a counterpoint to several other offerings in the issue that praise the virtues of exercise. Barsky's contribution focuses on the potential psychological drawbacks of exercise.

Other detractors raise a variety of like-minded arguments opposing exercise and, of course, everybody knows that Jim Fixx—the exercise proponent who helped popularize running for millions of Americans—suffered a fatal heart attack during a morning jog when he was only 52 years old. In general, however, both advocates and opponents of exercise have overlooked ineluctable evolutionary reality: our genetic constitution has been elected over geologic eras to operate within a milieu of vigorous, daily and lifelong physical exertions.

In 490 BC, Pheidippides ran from the plain of Marathon to the city of Athens so the Athenians could learn of their nike (victory) over the Persian hordes of Darius. Since 1896, when the Olympic Games were reinstituted, the marathon has been long distance running's premier event. Today, running equipment stores are named after Pheidippides, and Nike sport shoes are sold all over the world. The original epic run, which took place nearly 2,500 years ago, is well commemorated.

It is ironic, and a bit sad, therefore, that a comparable feat which occurred during the American Revolution has been completely forgotten. Walter Edmond's novel *Drums Along the Mohawk*, which received critical acclaim when it was published in the 1930s, describes the impact of the Revolutionary War on the lives of pioneers living in the Mohawk River Valley of upstate New York. Though its main characters are fictional, their actions are set against and within a framework of the actual people and events of that period. One of the "real" episodes concerns Adam Helmer.

Helmer, 6′ 5″ in his moccasins and weighing close to 200 pounds, was the biggest man in the region. He and three

other settlers were on a scouting patrol to prevent a surprise attack by the British and their Indian allies when they were ambushed by a Mohawk Indian war party. His friends were killed immediately, but Helmer escaped and ran north towards German Flats, 24 miles away. His pursuers were warriors capable of running 80 miles in a day (something like the modern Tarahumans in Mexico). The Mohawks tried to tire Helmer by having different members of their band sprint after him in succession while the others ran a steadier pace. Despite this murderously relentless pressure (the sprinters could throw their tomahawks 40 feet with deadly accuracy), Helmer outran the Indians and reached German Flats in time to warn the settlement of the impending raid. This feat, which few today remember, saved hundreds of settlers who were able to reach their stockades—Fort Herkimer, Fort Dayton and Little Stone Arabia—before being cut off and killed in their individual cabins by the Indians and the British.

Like Pheidippides in 490 BC, Adam Helmer in 1778 lived a life much closer to that of our remote ancestors than we live today. And, like technologically primitive people in all time periods, his physical prowess resulted from the requirements of his daily life. Helmer ran just as the Industrial Revolution was getting under way. Ironically the revolution's effects have freed humankind, at least in the "developed" Western nations, from the necessity of physical labor. But industry has deprived us of the muscular exertion for which our bodies are genetically engineered. We have gained leisure and comfort, but lost strength, agility, stamina and physical toughness. Our bodies and our health records show that we have become the soft underbelly of humanity.

Paleontological studies show that our ancestors were fit. Their bones reflect muscularity: the prominence of muscular insertion sites, cross-sectional shape, cortical thickness, and area of articular surfaces all vary directly with the force generated by the muscles acting on them. Analysis of such features indicate that, on average, late Paleolithic Stone Agers were as powerful as superior athletes today and far more so than the majority of us. Anthropological observations of contemporary hunter-gatherers have documented that their endurance far exceeds that of typical Americans, and the evidence from comparative biology is even more intriguing.

Humans are the only primates able to sweat and the only ones without functional body hair. These physiological adaptations facilitate heat loss and suggest that activities generating considerable heat (of which aerobic exercise is paramount) have been of evolutionary importance for our line since our ancestors diverged from the chimpanzees over five million years ago.

Differences between our ancestors' way of life and our own, however, are not confined exclusively to the physical. If valid inferences can be drawn from observations of hunter-gatherers studied in this century, there have been important social and psychological changes as well.

From our genes' point of view, we are still Stone Agers who have been transported through time to a foreign and in many ways hostile environment.

The child-rearing patterns of people living in technologically primitive societies are quite different from our own and it seems likely that theirs are closer to the million-year heritage of humanity. In the Stone Age, and indeed until quite recently everywhere, mothers had to nurse their children; there were no domesticated animals, and hence no dairy products other than mother's milk and, of course, there were no bottles or rubber nipples. Babies were nursed frequently, on demand and usually for their first two to three years. Also, during their first year or two, infants were in actual physical contact with an older person, usually their mother, the great majority of the time. There were no parallels for the cribs and playpens in which today's babies spend so much of their time.

Arguing by further analogy with contemporary hunter-gatherer societies, it appears likely that for over a million years, men and women lived together as near-equals, both socially and economically. If current hunter-gatherer groups constitute an acceptable model, women in the Stone Age had as much control over their lives as men had over theirs. Women's economic contributions as gatherers of plant foods were critical. The hunting activities of men were less predictably successful and, in any event, both meat and vegetable foods were essential in the Stone Age nutritional scheme. Economic equality promoted social equality.

Also, during the Paleolithic, small bands were the basic social units and group dynamics in small bands favor equality. In such groups there's little social stratification and less tendency for men to dominate over women. Similar extrapolation suggests that women generally had an important say in decisions that affected the band as a whole.

In the late 20th century, many women aspire to the "superwoman" role, which coordinates a full career with a satisfying experience as wife and mother. Achieving this combination is extraordinarily difficult, but in the Stone Age the "superwoman" must have been the norm. Women's careers as gatherers were crucially important for the food supply, yet women were also wives, mothers and the primary providers of child care. However, in contrast to the current situation in our society, life in the Stone Age typically afforded extensive support mechanisms so that women could fulfill both roles without becoming overly stressed.

The *NEJM* review asks if we should follow a Paleolithic prescription merely because it is old. If "old" can be interpreted to mean long lasting, then the answer would be yes. The genetic complement of today's humans has been shaped over an almost inconceivably long period. The majority of our genes had already been selected before the dinosaurs became extinct; 99 percent were in place and functioning before our ancestors became human two million years ago. Whatever their ethnic origin, people living all over the world in the 20th century are fundamentally alike in their basic biological and medical characteristics. Yet the findings of physical anthropologists can be interpreted as showing that, individually, we are equally or even more similar to our direct ancestors of 20,000 years ago.

From this perspective, consider our diets. "Give us this day our daily bread" is an ancient prayer, but before the Mesolithic Era (beginning about 15,000 years ago) humans, like most other primates, made little or no use of cereal grains. Mother's milk is the most natural food, but apart from recent humans (only since the domestication of animals), no other free-living mammals consume milk after infancy. The point is that many of our foods (and other aspects of our lives) seem normal or natural because they are comfortably familiar. But from our genes' point of view, we are still Stone Agers who have

been transported through time to a foreign and in many ways hostile environment.

Thus the fact that our ancestors' diets were "old" assumes compelling significance. Paleolithic fare provided a tried-and-true nutrient mix appropriate for their, and our, genetically determined biochemistry and physiology. For most of us, the foods we consume today have a hit-or-miss relationship with our metabolic needs; they supply a gracious abundance of energy, but the amounts and proportions of individual nutrients may or may not be optimal—despite the high level of adaptive flexibility with which evolution has endowed us. Our burden of chronic degenerative diseases testifies to how frequently our biology and our diets are out of step.

Whenever the advantages of a Paleolithic prescription are discussed, two objections are commonly raised. The first is that the "diseases of civilization"—cancer, heart disease, and the like—are disorders whose clinical manifestations generally become evident with increasing age. Might not persons in technologically primitive societies simply die too young to develop such conditions?

Two arguments rebut this notion. Youths in Western nations manifest asymptomatic early stages of these diseases whereas young people in traditional societies do not. Furthermore, those persons in hunter-gatherer cultures who do reach age 60 and beyond remain free from the obesity, hypertension and coronary disease that often incapacitate their peers in "civilized" nations.

The second objection, even more frequently raised, is that people in the 20th century—even obese "couch potatoes"—live far longer on average than did Stone Agers. This observation is unquestionably true. Historical demographers have used the evidence of skeletal remains to show that over a period spanning 30,000 years—up until the beginning of the 19th century—average human life expectancy (*not* maximum span of life, which is quite a different concept) varied between 30 and 40 years. This means that an infant born today can anticipate living twice as long, on average, as could one born in the late Stone Age.

So far, so good. But the corollary—that because we live longer, our lifestyle (diet, exercise and so forth) must be healthier—is false. The common causes of death from the emergence of anatomically modern humans until the Victorian era have been infections (especially pneumonias and diarrheal diseases) and, to a lesser extent, trauma and disorders of pregnancy and childbirth. Sanitary engineering, immunization, and antibiotics had largely controlled infections until the specter of AIDS reacquainted us with a fear of contagious disease reminiscent of the 1950s polio epidemics. And, of course, modern medical care now saves many who would formerly have died of injury or in labor. A penetrating chest wound or a compound fracture are serious but seldom fatal problems today. For a Stone Ager, these ailments almost invariably meant death.

The obvious benefits provided by medicine and science are emblematic of innumerable other cultural and technological advances since the Paleolithic. Writing, mathematics, museums, libraries, universities and laboratories have expanded the dimensions of our world and unleashed the human spirit to an ineffable degree. But the blessings of civilization are not unmixed. Our doubled life expectancy is both the crowning achievement of Western society and a telling comment on the ills of life in affluent nations. The way we live today exaggerates the biological differences between generations; our lifestyles make 50-year-olds less like 20-year-olds than they ought to be under natural circumstances. For many of us, the second half of our lives is a time when we are unfit, unhealthy, unattractive and unable to extract maximum benefit from our newly added years.

So how should we proceed? *The Paleolithic Prescription* advocates blending the best from the past with the best from the present. If we can successfully amalgamate the essential features of our age-old ancestral lifestyle with the most beneficial aspects of modern life, we may be able to achieve health, longevity and a quality of life unknown to any prior generation of humans. □

S. Boyd Eaton '64 is co-author of The Paleolithic Prescription *with Marjorie Shostak and Melvin Konner '84. He is chief of radiology at West Paces Ferry Hospital, associate clinical professor of radiology at Emory University School of Medicine, and a member of the Health Policy Council for the state of Georgia. He is also adjunct professor of anthropology at Emory University. Shostak is a former associate of the Peabody Museum of Archaeology and Ethnology of Harvard University.*

Japanese Country Doctor

Thoroughly Modern Medicine

by Matthew and Sandra Meyerson

Tanga village lies on the easternmost peninsula of the southern Japanese island of Kyushu. The road from the city of Saiki to Tanga is narrow, squeezed between steep green mountains and the pale blue sea. Every few miles one passes a cluster of houses in a small harbor town. At night, fishing boats rest behind the breakwaters. Until seven years ago, when a tunnel was drilled through the mountains, there was no paved road to Tanga; its people travelled to nearby towns by boat.

This remote village is almost another world from the thriving high-tech metropolises of Tokyo and Osaka. Most of its residents live by fishing and by seasonal construction labor. A few garden terraces, carved out of the hills, still remain from the days when the people of Tanga were subsistence farmers.

Like many isolated rural areas in Japan, Tanga's population has been declining as young people leave for jobs in cities. A generation ago, there were 1,000 people on the nearby island of Ohshima. Now there are only 500 and most are elderly. Only 17 children attend an elementary school that once held 100 pupils.

We travelled to Tanga, Japan because we wanted to learn how the country with the world's most effective health system provides medical care to its rural, isolated areas. Not only do the Japanese have the highest life expectancy and the lowest infant mortality rate of any nation in the world, but such good health outcomes are distributed evenly throughout the country. Even Japanese prefectures with the very worst health statistics still average better than the United States.

Our visit to Tanga came at the end of six weeks of studying preventive and primary care medicine in Japan. During this time, we observed and participated in medical care and health education activities at medical schools, public health centers and urban and rural clinics.

Shuji Tonai is the only physician for the 1200 people living in Tanga and the 500 people on Ohshima. His clinic and house are on the edge of a small harbor in Tanga. A native of Oita prefecture in Kyushu, Tonai is the eldest of three children. His father is a truck driver, and his mother raises and sells fruit from their half-acre plot.

Tonai graduated from Jichi Medical School in 1982. Jichi was founded in 1972—part of a joint effort of Japan's prefectural governments—to train primary care doctors who practice in under-served areas of rural Japan upon graduation.

Jichi Medical School accepts two high school graduates a year from each of Japan's 47 prefectures. Students receive free tuition and a small stipend for the six years they attend school. In return, they must serve nine years in their home prefectures: two years of residency at a major teaching hospital are followed by three to four years at a rural hospital, and then three to four years of general practice in an isolated area.

Tonai spent his two-year residency—a one-year rotating internship and a year in pediatrics—at the main prefectural hospital in Oita city. Although Japanese physicians receive their licenses when they graduate from medical school and pass a national examination, most doctors, like Tonai, pursue one or two years of postgraduate training in a teaching hospital.

Tonai sees patients in the Tanga clinic from 8:30 in the morning to 3:30 in the afternoon. From 3:30 to 6:00 he

visits bedridden patients in their homes. Even at home his workday is not over; patients often phone him for advice or drop in for consultation. Once a week he holds office hours at the island clinic on Ohshima.

As is the custom in Japan, Tonai's patients do not make specific appointments but are just told a certain day to come to the clinic. Patients usually wait one to two hours without complaint. In the clinic's waiting room, a videocassette player entertains patients with health-education videos Tonai has made and videos of local high school sporting events.

The Tanga clinic is in a clean, white stucco building with red pillars overlooking the ocean. Inside there is an open room for the doctor's history-taking and examination, and an adjacent room for nurses to take blood and give injections. A separate room is used for endoscopy, colonoscopy and abdominal and cardiac ultrasound. This room also contains several machines used to relieve chronic neck and back pain.

The clinic also houses an x-ray suite used for chest and bone films, and upper and lower GI series. This wide array of equipment is typically found in all clinics in rural and urban Japan—even those that serve small communities such as Tanga.

But unlike many small, one-doctor clinics, the Tanga clinic has no inpatient beds. The nearest hospital is 50 minutes away by car in Saiki city. Every Friday, Tonai travels to Saiki to discuss the care of his hospitalized patients with the staff doctors.

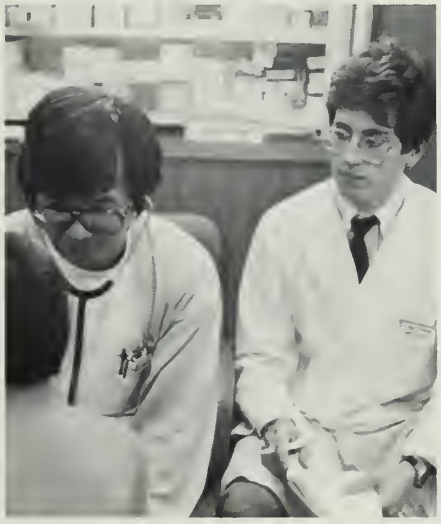
Two nurses, Mrs. Abe and Mrs. Kanda, work together with Tonai at both the Tanga and Ohshima clinics. Usually, a single doctor's clinic in Japan will have two or three nurses, although it is not uncommon for as many as seven or eight nurses to work at a clinic with inpatient beds.

The nurses assist Tonai in examinations, minor surgery and wound care. They perform x-rays, take blood, and give therapeutic injections. They also take patients aside for health education sessions. In addition to accompanying Tonai on home visits, the nurses make their own home visits every morning before clinic begins. Both nurses have lived in the area for many years, and know the patients and their families well.

In addition to the clinic nurses, a public health nurse, Mrs. Hamano, serves the 5,300 people of the township of Tsurumi-machi, which includes Tanga village. Public health nurses work in every community in Japan provid-

Shuji Tonai's clinic in Tanga.

Jichi Medical School outpatient clinic in Tochigi prefecture.



Tonai and Matthew Meyerson.

PHOTOS BY MATTHEW AND SANDRA MEYERSON

Sandra Meyerson and Shuji Tonai with the nurses and staff from the clinic in Tanga.

The waiting room at Ohshima clinic. Patients watch video tapes, produced by the doctor, of local sporting events.

Patients usually wait at least two hours—without complaint.

ing health education and health promotion activities for the local citizens.

Hamano travels to each of the 13 community centers in Tsurumi-machi three times a year to give lectures on health issues such as cancer, hypertension, diet and exercise. She visits the homes of elderly bedridden patients, advises their families on their care, and arranges nursing home care when necessary. Hamano also visits the home of every newborn child at least three times during the child's first year, gives advice to the mother and evaluates the family environment. In addition she is responsible for compiling disease prevalence rates and vital statistics for the township.

Local governments provide handbooks on prenatal and pediatric care—as well as workbooks for people with chronic diseases such as hypertension and diabetes—to help patients record and understand their state of health. For example, pregnant women in Japan all register with their local government and receive the "Mother-Child Health Handbook." This pocket-sized workbook includes nutrition and health advice for the pregnant woman as well as information concerning developmental milestones and learning skills of a growing child. The mother takes this workbook, which includes a schedule for prenatal exam visits and space for physicians to record the results of each prenatal and pediatric examination, to every visit with her physician.

On an average day, Tonai sees 40 to 50 patients. One day we spent with Tonai, he saw 28 patients in the clinic and made nine home visits. One patient came to his house. The conditions we saw among patients were similar to those seen in the United States, except for a comparatively high rate of hypertension.

One patient with a long history of hypertension was a 75-year-old woman who had recovered from a stroke that had caused transitory left-sided hemiparesis. She was keeping a detailed diary of her daily blood pressure, as do many Japanese patients. She must see the doctor every four weeks because the national health insurance laws require patients to be examined every two to four weeks in order to refill their prescriptions. Tonai spent about seven minutes with her, answering her current health questions, examining her briefly, and dispensing anti-hypertensive medicines.

We also saw an 80-year-old woman with a long history of hypertension. She was not scheduled to come in for a prescription refill, but she had mea-

sured her diastolic blood pressure at home that morning to be 116 mm Hg. Tonai noted that her diastolic blood pressure was indeed elevated, at 112 mm Hg, and he increased her dose of nifedipine.

Many Japanese people keep regular health diaries, especially patients with chronic diseases such as hypertension and diabetes. The documentation provided by these diaries helps both doctors and patients evaluate the effectiveness of therapy and lifestyle changes. Family members of elderly patients also keep daily records of the patient's status; they monitor temperature, blood pressure, blood sugar, fluid intake, and urine output—often as frequently as three times a day!

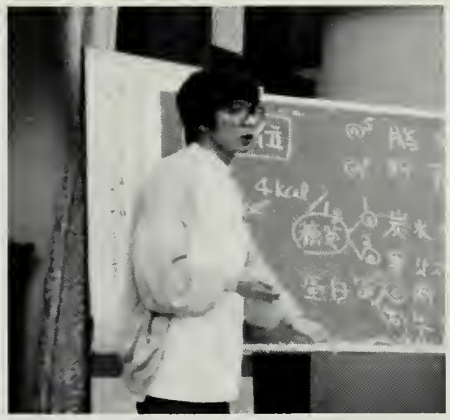
A system of regular home visits by physicians and nurses to elderly, bedridden patients makes it possible for older people to live with their families and to receive good medical care. A health-care team visits them every one to two weeks, examines the patient, provides medicine, gives advice on daily care, and surveys their living conditions and the stresses in the family.

One afternoon, we visited a 76-year-old woman who had been suffering from metastatic sigmoid colon carcinoma for 15 months. She was being cared for by her daughter-in-law at home, and Tonai and a nurse visited her every week. Her family was documenting her daily intake of food and fluids and she was still able to eat half of her normal diet.

When we examined her, she was cachetic to the point that the outlines of her tibia and fibula and her pelvic cavity were clearly defined. She had a 38° C fever secondary to a skin infection and she was barely responsive. The doctor and nurse drew a blood sample for a complete blood count and erythrocyte sedimentation rate, and gave intravenous antibiotics. As part of her terminal care, she received a daily cocktail of morphine and cocaine.

She was being cared for in a beautiful tatami-matted room in her son's house filled with vases, fruits, and a small shrine. A formal photograph of her late husband hung on a beam over the shrine. The beauty and sanctity of this room were typical of the rooms of the elderly, bedridden patients we visited.

Every Tuesday, Tonai rides the clinic boat over a rough sea to Ohshima island. Although "Ohshima" means "big island" the island is in fact quite small and can be circled by bicycle in fifteen minutes. There are no cars on the island, which contains three small harborside villages, an elementary school and junior high school, several small stores, a post office and a community center.



Shuji Tonai delivers a lecture to patients with newly diagnosed diabetes.

The new patients wait in line with their own rice bowls for a meal prepared by the clinic. A nurse weighs patients' food and counsels them on their food choices and amounts.

The problems at the Ohshima clinic were similar to those at the Tanga clinic. Tonai saw many patients with hypertension and low back pain, and also several cancer patients who consult with him regularly. The clinic also received an unexpected visit by the elementary school students, who came in for check-ups before their track meet the following week.

The next day, at the Tanga community center, Tonai and the clinic staff presented the first in a series of six workshops for patients with newly-diagnosed diabetes. The workshop began with an hour-long lecture by Tonai, who explained the pathogenesis of non-insulin-dependent diabetes mellitus and the dietary guidelines for diabetic patients. Following a question and answer period, dinner was served to the patients.

The nurses and several community members had prepared a selection of dishes—weighing all the ingredients and determining the amount of calories, protein, fat and carbohydrates in each dish. Patients were asked to choose from among the dishes, making selections as they would at home. The nurses weighed patients' food and helped them calculate their total caloric and nutrient intake. After the meal, the doctor and nurses spoke to participants individually about their diet.

Although these patients needed nutritional guidance in order to control their diabetes, the typical Japanese diet—rich in vitamins, minerals and complex carbohydrates, and low in saturated fats and refined sugar—is seen as a model for preventing heart disease and diabetes. Japanese meals also incorporate a large variety of foods, thus insuring nutritional balance. While the low fat content of the Japanese diet helps to prevent atherosclerosis, the high salt intake raises the risk of hypertension and thus of cerebral hemorrhage. Physicians and public health workers try to discourage the consumption of salty foods. Studies in Japan suggest that low levels of cholesterol in the Japanese diet may also be a factor leading to an increased rate of cerebrovascular accidents.

The island of Ohshima.

Unlike the United States, where pharmacists dispense drugs prescribed by physicians, Japanese doctors both prescribe *and* dispense medicines. Doctors who have private clinics profit from the sale of each medicine they prescribe. Even in public clinics, we witnessed considerable quantities of medication being dispensed, often without, or so it seemed to us, clear clinical indications.

Only a limited selection of medicines are reimbursed by health insurance. Government-appointed committees of physicians meet each year to determine the medicines appropriate for each and every medical problem. Often the most expensive medicines are not covered by insurance and thus are seldom used.

Both doctors and patients pay much attention to minor complaints. Japanese physicians seem to offer a broad range of medicines and other therapies for chronic pain. For example, Tonai treated an 82-year-old man with a cough and lower back pain with an epidural lidocaine injection for the back pain as well as a cough suppressant. Many Japanese physicians, especially orthopedists, give analgesic or anesthetic intramuscular or intraspinal injections for chronic pain.

Oriental herbal medicines are often prescribed and many therapeutic machines are used, including microwave tissue warmers, electrical stimulators, and back and neck stretching devices. These machines were in almost constant use by patients such as a 78-year-old woman with a long history of Parkinson's disease, who came to the clinic every day for electrical stimulation to ease chronic pain in her neck, back and knees.

We were very surprised by the informal and direct language and manners that patients and doctors used with one another, in contrast to the rituals of mutual bowing and exquisitely polite language that Japanese people usually perform. Often patients would plunge into medical issues without even a word of greeting. Patients also asked many questions without hesitation, unlike other settings where questions are not socially accepted.

Physicians see patients for an average of only seven to eleven minutes, but everyone visits physicians an average of seventeen times a year. One reason for the frequent, brief visits is the requirement that patients with chronic illnesses see their doctor every two to four weeks for prescription refills. By seeing patients more regularly, physicians can monitor their health status closely, answer any health questions, and remind them of healthy behavior.

Many patients with acute illness are seen in clinic daily. Such close outpatient supervision often prevents hospital admission. Such care was given to a 47-year-old man with a severe interphalangeal toe infection on both feet

Women who have had abortions (legal in Japan) place statues at this shrine for aborted fetuses.

who came to the clinic every day for monitoring and routine wound care. He had originally consulted a dermatologist, who diagnosed tinea pedis and dispensed a topical cream. The infection worsened and the patient was not satisfied with his care— especially since his dermatologist saw over 300 patients a day.

When he arrived at Tonai's clinic, his left foot was severely edematous; the tissue in the fourth interphalangeal space of both feet was eroded down to the muscle layer. Tonai and the nurses cleaned the wounds thoroughly and dispensed the antibiotic enoxacin. At the patient's next visit, the wound looked worse. Tonai debrided the wounds, injected a dose of the antibiotic fosfomycin, and continued to prescribe enoxacin.

Compared to Japan, the United States has not only a giant trade deficit, but also a very serious "health deficit." Japan has achieved the world's highest life expectancy, the world's lowest infant mortality rate, and a lower prevalence of many acute and chronic illnesses while spending barely half as much on health care as the United States.

In 1987 the average life expectancy in Japan was 75.6 years for men and 81.4 years for women. In the United States, life expectancy was only 71 years for men and 78.1 years for women. The infant mortality rate in Japan in 1987 was 5 deaths for 1,000 live births; in the United States in 1987, the infant mortality rate was 10.4 deaths per 1,000 live births—more than twice the Japanese rate.

Furthermore, the Japanese pay much less for their superior health results. In 1987, the Japanese people spent 6.4 percent of their GNP on health care, whereas in the United States we spent over 11.1 percent of our GNP on health care.

Health insurance is provided to all Japanese citizens—either by their employers or by the government. Premiums are divided equally between employers and employees with insurance covering the employee, and the employee's spouse and children. Elders are also covered if they live with the family, with home visits and other home care included.

Patients must pay both a premium and 10 percent of their medical care, up to a fixed limit; spouses and dependents must pay 20 percent for inpatient and 30 percent for outpatient care, up to a fixed limit as well. We wondered if placing some of the financial burdens of health care on the patient inhibits overuse of medical care in Japan.

The insurance plan sets the exact same price for all procedures for all patients throughout the entire country. The simplicity of this system prevents wasted costs in bureaucracy. The standardized prices of medical care are similar to the Resource Based Relative Value System which is now under consideration in the United States.

Annual screening exams are provided for employees, children and students at school and workplace clinics during the screening season each year. The rest of the public—homemakers, the self-employed and the elderly—is examined at community centers and public health facilities. This mass screening is free for students and employees, and costs 1000 *yen* (approximately $8) for everyone else. The exams include physical examinations, blood chemistries, chest x-rays, and age-specific tests such as upper GI series for people over 40.

Doctor-patient relationships in Japan are not clouded by the threat of malpractice suits. During our weeks of working closely with Japanese doctors and discussing their reasoning in many medical cases, not once was fear of malpractice given as a cause for a medical decision.

Finally, the high educational level of the Japanese people, as evidenced by a literacy rate higher than 99 percent, further improves their knowledge and insight into their health. They are willing, and able, to become educated about medicine by participating actively in their own health care.

As we left Tanga to return home to Boston, we reflected on the strengths of Japanese health care and thought about what we Americans could learn from this example. We feel that implementing a few features of the Japanese system in the United States—such as universal health insurance, a network of public health nurses, and scholarships for doctors to practice in underserved areas—could significantly improve our health performance and help narrow the "health deficit." □

Matthew ('91) and Sandra ('89) Meyerson, supported by a Sellard Fellowship to visit Jichi Medical School, spent six weeks during their fourth year at HMS working with primary care physicians in Japan. Each had previously spent a year working in Japan and both are fluent in Japanese. Sandra is now a pediatric intern at Massachusetts General Hospital and Matthew is completing the Harvard-MIT MD/PhD program, doing research in molecular biology with Walter Gilbert.

PROFILE

Russell Rohde '56

RAPTOR REPAIR

by Sarah Jane Nelson

Not long ago Russell Rohde made an unusual house call—one of his physician colleagues had an injured bird in his backyard. Would Rohde come and look at it? Figuring it was a common yard bird, Rohde thought little of his errand until he arrived to find a red-shouldered hawk hanging by a string from a tree. He removed the bird from its entanglement and took it to his home for three days of rest and rehabilitation before releasing it back into the wild.

Rohde's wildlife rehabilitation skills are well known in West Covina, California and neighboring towns. While most of the area's injured or orphaned birds are delivered to his doorstep, Rohde's truck is always equipped with a pair of heavy gloves for those spur-of-the-moment rescue missions.

A cardiologist in the non-invasive cardiology unit at Queen of the Valley Hospital in West Covina, Rohde has spent the past three years caring for birds of prey as well. He got his first on-the-job training with Wild Wings of California, an organization based in the nearby San Dimas bird sanctuary. Rohde explains that most veterinarians don't want to take care of birds or other wild creatures—it requires personal expenditures, considerable time and zero profit. "However," says Rohde, "it's an expense that I bear very willingly."

Rohde obviously means what he says. His two acres of property, once a lemon orchard, have been landscaped to provide for a large flight cage and two "mews," room-sized enclosed wooden structures designed to minimize feather damage. The newest mew boasts a skylight and three screened windows; sunlight helps combat the development of rickets. In the summer, large tubs are placed inside the mews for the bathing pleasure of large raptors.

Rohde's avian patients vary: over this past year he has administered to many species and varieties of hawks and owls. His greatest fascination lies with the owls, whose larger heads encase huge sensory organs of hearing and seeing. Rohde finds their expressions almost human in their emotionality. He currently has 16 great-horned owls under

Russell Rohde '56 and his wife, Mo, with two avian patients.

his care. Their environmental significance is of great interest to him: "Their size and their aggressiveness keep rodents such as roof rats at bay. They also keep down excess gopher and snake populations."

Animal rehabilitation workers spend much of their time and efforts on feedings. Rohde feeds dead rats to nestlings and fledglings. In addition to administering flight agility and endurance, and binocular vision tests to his raptors before releasing them, Rohde tests their "killing ability;" when the birds reach three or four weeks of age they are given live prey to tackle. California state law requires that rehabilitators provide orphans with 'foster' mothers. "The mother teaches them to kill and tear apart their prey and eat like a lady. Mothers teach them how to preen, and keep their feathers intact," explains Rohde.

Rohde emphasizes that human 'imprinting' is to be avoided as much as possible. "When a bird thinks it's human, it's no longer releasable." Wrote Rohde in a description of his work: "The [owl] babies are born blind and great care must be taken to prevent the problem of wrongful imprinting, usually a phenomenon which takes place some time between hatching and about two weeks of age: It may be related to switching on of a specific gene complex governing bodily identification of self as an owl rather than as a 'person' or even a 'brown paper bag' if one cares to wear such garb." For these reasons, Rohde discourages visitors from viewing his feathered patients. "These birds are best kept wild and untamed."

As the Rohdes move about their house, they keep an unobtrusive eye on the birds through video cameras. Rohde's wife, Mo, and daughter, Jennifer, take care of round-the-clock feedings of nestlings while he is at the hospital.

Rohde's environmental concerns go beyond bird rehabilitation. For instance, he looks down on the common practice of shooting raptors to keep them off golf courses. Spreading suburbia is another threat: "Every time they take over another valley, we lose more territory for the owls; they need two to three square miles of individual territory. . . . The more asphalt we put down for streets, the less grass there is for the rats [upon which owls feed]." Most of his work is done on birds that have made the Department of Wildlife's 'threatened' species list. Rehabilitators must be state licensed by the Department of Fish and Game and need permits from U.S. Fish and Wildlife when working with migratory and endangered species.

While Rohde has always been fascinated by birds of prey, his concern for the plight of wildlife is a more recent development. At age 14, he was certified through the Northwestern School of Taxidermy (founded by Theodore Roosevelt), and worked with pheasants and other large birds. But now Rohde says that the days of the "great white hunter" bringing home his mounted trophy are gone. "I'm now more interested in seeing birds out in the wild."

Rohde shares his avian work with his patients. He has hung 20 x 24 enlargements of his birds in all of his medical office rooms. "My patients have come to learn much about the raptors and to better appreciate nature. Education is really the key to the owls' survival." Rohde reports that some of his patients have become conservationists under his influence. "It's really a personal triumph."

Rohde harbors no uncertainties about why he's taken to bird rehabilitation work: "I'm a doctor. I like to see things alive and healthy." □

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